SEQUENCE LISTING

<110> Pagano, M.

<120> METHODS TO IDENTIFY COMPOUNDS USEFUL FOR THE TREATMENT OF PROLIFERATIVE AND DIFFERENTIATIVE DISORDERS

<130> 5914-090-999

<140> 10/042,417
<141> 2002-01-07

<150> 60/260,179
<151> 2001-01-05

<160> 92

<170> PatentIn Ver. 2.0

<210> 1
<211> 2151
<212> DNA
<213> Homo sapiens

<400> 1
```
tgcgttggct gcggcctggc accaaagggg cggccccggc ggagagcgga cccagtggcc 60
tcggcgatta tggacccggc cgaggcggtg ctgcaagaga aggcactcaa gtttatgaat 120
tcctcagaga gagaagactg taataatggc gaacccccta ggaagataat accagagaag 180
aattcactta gacagacata caacagctgt gccagactct gcttaaacca agaaacagta 240
tgtttagcaa gcactgctat gaagactgag aattgtgtgg ccaaaacaaa acttgccaat 300
ggcacttcca gtatgattgt gcccaagcaa cggaaactct cagcaagcta tgaaaaggaa 360
aaggaactgt gtgtcaaata ctttgagcag tggtcagagt cagatcaagt ggaatttgtg 420
gaacatctta tatcccaaat gtgtcattac caacatgggc acataaactc gtatcttaaa 480
cctatgttgc agagagattt cataactgct ctgccagctc ggggattgga tcatatcgct 540
gagaacattc tgtcatacct ggatgccaaa tcactatgtg ctgctgaact tgtgtgcaag 600
gaatggtacc gagtgacctc tgatggcatg ctgtggaaga agcttatcga gagaatggtc 660
aggacagatt ctctgtggag aggcctggca gaacgaagag gatggggaca gtatttattc 720
aaaaacaaac ctcctgacgg gaatgctcct cccaactctt tttatagagc actttatcct 780
aaaattatac aagacattga dacaatagaa tctaattgga gatgtggaag acatagttta 840
cagagaattc actgccgaag tgaaacaagc aaaggagttt actgtttaca gtatgatgat 900
cagaaaatag taagcggcct tcgagacaac acaatcaaga tctgggataa aaacacattg 960
gaatgcaagc gaattctcac aggccataca ggttcagtcc tctgtctcca gtatgatgag 1020
agagtgatca taacaggatc atcggattcc acggtcagag tgtgggatgt aaatacaggt 1080
gaaatgctaa acacgttgat tcaccattgt gaagcagttc tgcacttgcg tttcaataat 1140
ggcatgatgg tgacctgctc caaagatcgt tccattgctg tatgggatat ggcctcccca 1200
actgacatta ccctccggag ggtgctggtc ggacaccgag ctgctgtcaa tgttgtagac 1260
tttgatgaca agtacattgt ttctgcatct ggggatagaa ctataaaggt atggaacaca 1320
agtacttgtg aatttgtaag gaccttaaat ggacacaaac gaggcattgc ctgtttgcag 1380
tacagggaca ggctggtagt gagtggctca tctgacaaca ctatcagatt atgggacata 1440
gaatgtggtg catgtttacg agtgttagaa ggccatgagg aattggtgcg ttgtattcga 1500
tttgataaca agaggatagt cagtgggcc tatgatggaa aaattaaagt gtgggatctt 1560
gtggctgctt tggaccccg tgctcctgca gggacactct gtctacggac ccttgtggag 1620
cattccggaa gagttttcg actacagttt gatgaattcc agattgtcag tagttcacat 1680
gatgacacaa tcctcatctg ggacttccta aatgatccag ctgcccaagc tgaacccccc 1740
cgttcccctt ctcgaacata cacctacatc tccagataaa taaccataca ctgacctcat 1800
acttgcccag gacccattaa agttgcggta tttaacgtat ctgccaatac caggatgagc 1860
aacaacagta acaatcaaac tactgcccag tttccctgga ctagccgagg agcagggctt 1920
tgagactcct gttgggacac agttggtctg cagtcggccc aggacggtct actcagcaca 1980
actgactgct tcagtgctgc tatcagaaga tgtcttctat caattgtgaa tgattggaac 2040
ttttaaacct cccctcctct cctcctttca cctctgcacc tagttttttc ccattggttc 2100
cagacaaagg tgacttataa atatatttag tgttttgcca gaaaaaaaaa a 2151
```

-1-

<210> 2
<211> 569
<212> PRT
<213> Homo sapiens

<400> 2
Met Asp Pro Ala Glu Ala Val Leu Gln Glu Lys Ala Leu Lys Phe Met
 1   5   10   15

Asn Ser Ser Glu Arg Glu Asp Cys Asn Asn Gly Glu Pro Pro Arg Lys
                20   25   30

Ile Ile Pro Glu Lys Asn Ser Leu Arg Gln Thr Tyr Asn Ser Cys Ala
            35   40   45

Arg Leu Cys Leu Asn Gln Glu Thr Val Cys Leu Ala Ser Thr Ala Met
        50   55   60

Lys Thr Glu Asn Cys Val Ala Lys Thr Lys Leu Ala Asn Gly Thr Ser
 65   70   75   80

Ser Met Ile Val Pro Lys Gln Arg Lys Leu Ser Ala Ser Tyr Glu Lys
                85   90   95

Glu Lys Glu Leu Cys Val Lys Tyr Phe Glu Gln Trp Ser Glu Ser Asp
            100   105   110

Gln Val Glu Phe Val Glu His Leu Ile Ser Gln Met Cys His Tyr Gln
        115   120   125

His Gly His Ile Asn Ser Tyr Leu Lys Pro Met Leu Gln Arg Asp Phe
    130   135   140

Ile Thr Ala Leu Pro Ala Arg Gly Leu Asp His Ile Ala Glu Asn Ile
145   150   155   160

Leu Ser Tyr Leu Asp Ala Lys Ser Leu Cys Ala Ala Glu Leu Val Cys
                165   170   175

Lys Glu Trp Tyr Arg Val Thr Ser Asp Gly Met Leu Trp Lys Lys Leu
            180   185   190

Ile Glu Arg Met Val Arg Thr Asp Ser Leu Trp Arg Gly Leu Ala Glu
        195   200   205

Arg Arg Gly Trp Gly Gln Tyr Leu Phe Lys Asn Lys Pro Pro Asp Gly
    210   215   220

Asn Ala Pro Pro Asn Ser Phe Tyr Arg Ala Leu Tyr Pro Lys Ile Ile
225   230   235   240

Gln Asp Ile Glu Thr Ile Glu Ser Asn Trp Arg Cys Gly Arg His Ser
                245   250   255

Leu Gln Arg Ile His Cys Arg Ser Glu Thr Ser Lys Gly Val Tyr Cys
            260   265   270

Leu Gln Tyr Asp Asp Gln Lys Ile Val Ser Gly Leu Arg Asp Asn Thr
            275   280   285

-2-

Ile Lys Ile Trp Asp Lys Asn Thr Leu Glu Cys Lys Arg Ile Leu Thr
    290   295   300

Gly His Thr Gly Ser Val Leu Cys Leu Gln Tyr Asp Glu Arg Val Ile
305   310   315   320

Ile Thr Gly Ser Ser Asp Ser Thr Val Arg Val Trp Asp Val Asn Thr
                325   330   335

Gly Glu Met Leu Asn Thr Leu Ile His His Cys Glu Ala Val Leu His
            340   345   350

Leu Arg Phe Asn Asn Gly Met Met Val Thr Cys Ser Lys Asp Arg Ser
        355   360   365

Ile Ala Val Trp Asp Met Ala Ser Pro Thr Asp Ile Thr Leu Arg Arg
    370   375   380

Val Leu Val Gly His Arg Ala Ala Val Asn Val Val Asp Phe Asp Asp
385   390   395   400

Lys Tyr Ile Val Ser Ala Ser Gly Asp Arg Thr Ile Lys Val Trp Asn
                405   410   415

Thr Ser Thr Cys Glu Phe Val Arg Thr Leu Asn Gly His Lys Arg Gly
            420   425   430

Ile Ala Cys Leu Gln Tyr Arg Asp Arg Leu Val Val Ser Gly Ser Ser
    435   440   445

Asp Asn Thr Ile Arg Leu Trp Asp Ile Glu Cys Gly Ala Cys Leu Arg
    450   455   460

Val Leu Glu Gly His Glu Glu Leu Val Arg Cys Ile Arg Phe Asp Asn
465   470   475   480

Lys Arg Ile Val Ser Gly Ala Tyr Asp Gly Lys Ile Lys Val Trp Asp
                485   490   495

Leu Val Ala Ala Leu Asp Pro Arg Ala Pro Ala Gly Thr Leu Cys Leu
        500   505   510

Arg Thr Leu Val Glu His Ser Gly Arg Val Phe Arg Leu Gln Phe Asp
        515   520   525

Glu Phe Gln Ile Val Ser Ser Ser His Asp Asp Thr Ile Leu Ile Trp
    530   535   540

Asp Phe Leu Asn Asp Pro Ala Ala Gln Ala Glu Pro Pro Arg Ser Pro
545   550   555   560

Ser Arg Thr Tyr Thr Tyr Ile Ser Arg
                565

<210> 3
<211> 1476
<212> DNA
<213> Homo sapiens

-3-

```
<400> 3
atggagagaa aggactttga dacatggctt gataacattt ctgttacatt tctttctctg 60
acggacttgc agaaaaatga aactctggat cacctgatta gtctgagtgg ggcagtccag 120
ctcaggcatc tctccaataa cctagagact ctcctcaagc gggacttcct caaactcctt 180
cccctggagc tcagttttta tttgttaaaa tggctcgatc ctcagacttt actcacatgc 240
tgcctcgtct ctaaacagtg gaataaggtg ataagtgcct gtacagaggt gtggcagact 300
gcatgtaaaa atttgggctg gcagatagat gattctgttc aggacgcttt gcactggaag 360
aaggtttatt tgaaggctat tttgagaatg aagcaactgg aggaccatga agcctttgaa 420
acctcgtcat taattggaca cagtgccaga gtgtatgcac tttactacaa agatggactt 480
ctctgtacag ggtcagatga cttgtctgca aagctgtggg atgtgagcac agggcagtgc 540
gtttatggca tccagaccca cacttgtgca gcggtgaagt ttgatgaaca gaagcttgtg 600
acaggctcct ttgacaacac tgtggcttgc tgggaatgga gttccggagc caggacccag 660
cactttcggg ggcacacggg ggcggtattt agcgtggact acaatgatga actggatatc 720
ttggtgagcg gctctgcaga cttcactgtg aaagtatggg ctttatctgc tgggacatgc 780
ctgaacacac tcaccgggca cacggaatgg gtcaccaagg tagttttgca gaagtgcaaa 840
gtcaagtctc tcttgcacag tcctggagac tacatcctct taagtgcaga caaatatgag 900
attaagattt ggccaattgg gagagaaatc aactgtaagt gcttaaagac attgtctgtc 960
tctgaggata gaagtatctg cctgcagcca agacttcatt ttgatggcaa atacattgtc 1020
tgtagttcag cacttggtct ctaccagtgg gactttgcca gttatgatat tctcagggtc 1080
atcaagactc ctgagatagc aaacttggcc ttgcttggct ttggagatat ctttgccctg 1140
ctgtttgaca ccgctacct gtacatcatg gacttgcgga cagagagcct gattagtcgc 1200
tggcctctgc agagtacag ggaatcaaag agaggctcaa gcttcctggc aggcgaacat 1260
cctggctgaa tggactggat gggcacaatg acacgggctt ggtctttgcc accagcatgc 1320
ctgaccacag tattcacctg gtgttgtgga aggagcacgg ctgacaccat gagccaccac 1380
cgctgactga ctttgggtgc cggggctgcg ggttttgggt gcacctctgc ggcacgcgac 1440
tgcatgaacc aaagttctca cctaatggta tcatca                          1476


<210> 4
<211> 422
<212> PRT
<213> Homo sapiens

<400> 4
Met Glu Arg Lys Asp Phe Glu Thr Trp Leu Asp Asn Ile Ser Val Thr
  1               5                  10                  15

Phe Leu Ser Leu Thr Asp Leu Gln Lys Asn Glu Thr Leu Asp His Leu
                 20                  25                  30

Ile Ser Leu Ser Gly Ala Val Gln Leu Arg His Leu Ser Asn Asn Leu
             35                  40                  45

Glu Thr Leu Leu Lys Arg Asp Phe Leu Lys Leu Leu Pro Leu Glu Leu
        50                  55                  60

Ser Phe Tyr Leu Leu Lys Trp Leu Asp Pro Gln Thr Leu Leu Thr Cys
65                  70                  75                  80

Cys Leu Val Ser Lys Gln Trp Asn Lys Val Ile Ser Ala Cys Thr Glu
                 85                  90                  95

Val Trp Gln Thr Ala Cys Lys Asn Leu Gly Trp Gln Ile Asp Asp Ser
                 100                 105                 110

Val Gln Asp Ala Leu His Trp Lys Lys Val Tyr Leu Lys Ala Ile Leu
             115                 120                 125

Arg Met Lys Gln Leu Glu Asp His Glu Ala Phe Glu Thr Ser Ser Leu
        130                 135                 140

Ile Gly His Ser Ala Arg Val Tyr Ala Leu Tyr Tyr Lys Asp Gly Leu
```

-4-

Leu Cys Thr Gly Ser Asp Asp Leu Ser Ala Lys Leu Trp Asp Val Ser
              165   170   175

Thr Gly Gln Cys Val Tyr Gly Ile Gln Thr His Thr Cys Ala Ala Val
              180   185   190

Lys Phe Asp Glu Gln Lys Leu Val Thr Gly Ser Phe Asp Asn Thr Val
          195   200   205

Ala Cys Trp Glu Trp Ser Ser Gly Ala Arg Thr Gln His Phe Arg Gly
    210   215   220

His Thr Gly Ala Val Phe Ser Val Asp Tyr Asn Asp Glu Leu Asp Ile
225   230   235   240

Leu Val Ser Gly Ser Ala Asp Phe Thr Val Lys Val Trp Ala Leu Ser
              245   250   255

Ala Gly Thr Cys Leu Asn Thr Leu Thr Gly His Thr Glu Trp Val Thr
              260   265   270

Lys Val Val Leu Gln Lys Cys Lys Val Lys Ser Leu Leu His Ser Pro
          275   280   285

Gly Asp Tyr Ile Leu Leu Ser Ala Asp Lys Tyr Glu Ile Lys Ile Trp
    290   295   300

Pro Ile Gly Arg Glu Ile Asn Cys Lys Cys Leu Lys Thr Leu Ser Val
305   310   315   320

Ser Glu Asp Arg Ser Ile Cys Leu Gln Pro Arg Leu His Phe Asp Gly
              325   330   335

Lys Tyr Ile Val Cys Ser Ser Ala Leu Gly Leu Tyr Gln Trp Asp Phe
          340   345   350

Ala Ser Tyr Asp Ile Leu Arg Val Ile Lys Thr Pro Glu Ile Ala Asn
          355   360   365

Leu Ala Leu Leu Gly Phe Gly Asp Ile Phe Ala Leu Leu Phe Asp Asn
    370   375   380

Arg Tyr Leu Tyr Ile Met Asp Leu Arg Thr Glu Ser Leu Ile Ser Arg
385   390   395   400

Trp Pro Leu Pro Glu Tyr Arg Glu Ser Lys Arg Gly Ser Ser Phe Leu
              405   410   415

Ala Gly Glu His Pro Gly
              420

<210> 5
<211> 1407
<212> DNA
<213> Homo sapiens

<400> 5
```
cggggtggtg tgtggggggaa gccgcccccg gcagcaggat gaaacgagga ggaagagata 60
gtgaccgtaa ttcatcagaa gaaggaactg cagagaaatc caagaaactg aggactacaa 120
atgagcattc tcagacttgt gattgggta atctccttca ggacattatt ctccaagtat 180
ttaaatattt gcctcttctt gaccgggctc atgcttcaca gtttgccgc aactggaacc 240
aggtatttca catgcctgac ttgtggagat gttttgaatt tgaactgaat cagccagcta 300
catcttattt gaaagctacc catccagagc tgatcaaaca gattattaaa agacattcaa 360
accatctaca atatgtcagc ttcaaggtgg acagcagcaa ggaatcagct gaagcagctt 420
gtgatatact atcgcaactt gtgaattgct ctttaaaaac acttggactt atttcaactg 480
ctcgaccaag ctttatggat ttaccaaagt ctcactttat ctctgcactg acagttgtgt 540
tcgtaaactc caaatccctg tcttcgctta agatagatga tactccagta gatgatccat 600
ctctcaaagt actagtggcc aacaatagtg atacactcaa gctgttgaaa atgagcagct 660
gtcctcatgt ctctccagca ggtatccttt gtgtggctga tcagtgtcac ggcttaagag 720
aactagccct gaactaccac ttattgagtg atgagttgtt acttgcattg tcttctgaaa 780
aacatgttcg attagaacat ttgcgcattg atgtagtcag tgagaatcct ggacagacac 840
acttccatac tattcagaag agtagctggg atgctttcat cagacattca cccaaagtga 900
acttagtgat gtattttttt ttatatgaag aagaatttga ccccttcttt cgctatgaaa 960
tacctgccac ccatctgtac tttgggagat cagtaagcaa agatgtgctt ggccgtgtgg 1020
gaatgacatg ccctagactg gttgaactag tagtgtgtgc aaatggatta cggccacttg 1080
atgaagagtt aattcgcatt gcagaacgtt gcaaaaattt gtcagctatt ggactagggg 1140
aatgtgaagt ctcatgtagt gcctttgttg agtttgtgaa gatgtgtggt ggccgcctat 1200
ctcaattatc cattatggaa gaagtactaa ttcctgacca aaagtatagt ttggagcaga 1260
ttcactggga agtgtccaag catcttggta gggtgtggtt tcccgacatg atgcccactt 1320
ggtaaaaact gcatgatgaa tagcacctta atttcaagca aatgtattat aattaaagtt 1380
ttatttgctg taaaaaaaaa aaaaaaa                                   1407
```

<210> 6
<211> 428
<212> PRT
<213> Homo sapiens

<400> 6
```
Met Lys Arg Gly Gly Arg Asp Ser Asp Arg Asn Ser Ser Glu Glu Gly
  1               5                  10                  15

Thr Ala Glu Lys Ser Lys Lys Leu Arg Thr Thr Asn Glu His Ser Gln
             20                  25                  30

Thr Cys Asp Trp Gly Asn Leu Leu Gln Asp Ile Ile Leu Gln Val Phe
         35                  40                  45

Lys Tyr Leu Pro Leu Leu Asp Arg Ala His Ala Ser Gln Val Cys Arg
     50                  55                  60

Asn Trp Asn Gln Val Phe His Met Pro Asp Leu Trp Arg Cys Phe Glu
 65                  70                  75                  80

Phe Glu Leu Asn Gln Pro Ala Thr Ser Tyr Leu Lys Ala Thr His Pro
                 85                  90                  95

Glu Leu Ile Lys Gln Ile Ile Lys Arg His Ser Asn His Leu Gln Tyr
                100                 105                 110

Val Ser Phe Lys Val Asp Ser Ser Lys Glu Ser Ala Glu Ala Ala Cys
             115                 120                 125

Asp Ile Leu Ser Gln Leu Val Asn Cys Ser Leu Lys Thr Leu Gly Leu
     130                 135                 140

Ile Ser Thr Ala Arg Pro Ser Phe Met Asp Leu Pro Lys Ser His Phe
145                 150                 155                 160
```

-6-

```
Ile Ser Ala Leu Thr Val Val Phe Val Asn Ser Lys Ser Leu Ser Ser
                 165             170             175

Leu Lys Ile Asp Asp Thr Pro Val Asp Asp Pro Ser Leu Lys Val Leu
             180             185             190

Val Ala Asn Asn Ser Asp Thr Leu Lys Leu Leu Lys Met Ser Ser Cys
         195             200             205

Pro His Val Ser Pro Ala Gly Ile Leu Cys Val Ala Asp Gln Cys His
     210             215             220

Gly Leu Arg Glu Leu Ala Leu Asn Tyr His Leu Leu Ser Asp Glu Leu
225                 230             235                 240

Leu Leu Ala Leu Ser Ser Glu Lys His Val Arg Leu Glu His Leu Arg
             245             250             255

Ile Asp Val Val Ser Glu Asn Pro Gly Gln Thr His Phe His Thr Ile
             260             265             270

Gln Lys Ser Ser Trp Asp Ala Phe Ile Arg His Ser Pro Lys Val Asn
         275             280             285

Leu Val Met Tyr Phe Phe Leu Tyr Glu Glu Glu Phe Asp Pro Phe Phe
     290             295             300

Arg Tyr Glu Ile Pro Ala Thr His Leu Tyr Phe Gly Arg Ser Val Ser
305             310             315                 320

Lys Asp Val Leu Gly Arg Val Gly Met Thr Cys Pro Arg Leu Val Glu
             325             330             335

Leu Val Val Cys Ala Asn Gly Leu Arg Pro Leu Asp Glu Glu Leu Ile
             340             345             350

Arg Ile Ala Glu Arg Cys Lys Asn Leu Ser Ala Ile Gly Leu Gly Glu
         355             360             365

Cys Glu Val Ser Cys Ser Ala Phe Val Glu Phe Val Lys Met Cys Gly
     370             375             380

Gly Arg Leu Ser Gln Leu Ser Ile Met Glu Glu Val Leu Ile Pro Asp
385             390             395                 400

Gln Lys Tyr Ser Leu Glu Gln Ile His Trp Glu Val Ser Lys His Leu
             405             410             415

Gly Arg Val Trp Phe Pro Asp Met Met Pro Thr Trp
             420             425
```

<210> 7
<211> 1444
<212> DNA
<213> Homo sapiens

<400> 7
atggcgggaa gcgagccgcg cagcggaaca aattcgccgc cgccgccctt cagcgactgg 60
ggccgcctgg aggcggccat cctcagcggc tggaagacct tctggcagtc agtgagcaag 120

```
gatagggtgg cgcgtacgac ctccccgggag gaggtggatg aggcggccag caccctgacg 180
cggctgccga ttgatgtaca gctatatatt ttgtcctttc tttcacctca tgatctgtgt 240
cagttgggaa gtacaaatca ttattggaat gaaactgtaa gaaatccaat tctgtggaga 300
tacttttgt tgagggatct tccttcttgg tcttctgttg actggaagtc tcttccatat 360
ctacaaatct taaaaaagcc tatatctgag gtctctgatg gtgcatttt tgactacatg 420
gcagtctatc taatgtgctg tccatacaca agaagagctt caaaatccag ccgtcctatg 480
tatggagctg tcacttcttt tttacactcc ctgatcattc ccaatgaacc tcgatttgct 540
ctgtttggac cacgtttgga acaattgaat acctctttgg tgttgagctt gctgtcttca 600
gaggaacttt gcccaacagc tggtttgcct cagaggcaga ttgatggtat tggatcagga 660
gtcaattttc agttgaacaa ccaacataaa ttcaacattc taatcttata ttcaactacc 720
agaaaggaaa gagatagagc aagggaagag catacaagtg cagttaacaa gatgttcagt 780
cgacacaatg aaggtgatga tcgaccagga agccggtaca gtgtgattcc acagattcaa 840
aaactgtgtg aagttgtaga tgggttcatc tatgttgcaa atgctgaagc tcataaaaga 900
catgaatggc aagatgaatt ttctcatatt atggcaatga cagatccagc ctttgggtct 960
tcgggaagac cattgttggt tttatcttgt atttctcaag gggatgtaaa aagaatgccc 1020
tgtttttatt tggctcatga gctgcatctg aatcttctaa atcacccatg gctggtccag 1080
gatacagagg ctgaaactct gactggtttt ttgaatggca ttgagtggat tcttgaagaa 1140
gtggaatcta agcgtgcaag atgattctct tttcagatct tgggaactga aaccatttga 1200
aatttattac taaggtcgtg atgtgaatat ttgctcagtc agcccacctt gtcctgcctt 1260
tttgcagata ggctttcatt tggacagcta taactgctgt gtttttttata ttatttttac 1320
tttttaccat aaatcaatta caagaaaaga gtttcagtcc tagtatttag ccccaaaatg 1380
aacctttaaa catttttttg gtaattttta tatttctgt ctttttaaaa atattaaatt 1440
ttgg                                                            1444
```

<210> 8
<211> 472
<212> PRT
<213> Homo sapiens

<400> 8

```
Met Ala Gly Ser Glu Pro Arg Ser Gly Thr Asn Ser Pro Pro Pro Pro
 1               5                  10                  15

Phe Ser Asp Trp Gly Arg Leu Glu Ala Ala Ile Leu Ser Gly Trp Lys
            20                  25                  30

Thr Phe Trp Gln Ser Val Ser Lys Asp Arg Val Ala Arg Thr Thr Ser
        35                  40                  45

Arg Glu Glu Val Asp Glu Ala Ala Ser Thr Leu Thr Arg Leu Pro Ile
    50                  55                  60

Asp Val Gln Leu Tyr Ile Leu Ser Phe Leu Ser Pro His Asp Leu Cys
65                  70                  75                  80

Gln Leu Gly Ser Thr Asn His Tyr Trp Asn Glu Thr Val Arg Asn Pro
                85                  90                  95

Ile Leu Trp Arg Tyr Phe Leu Leu Arg Asp Leu Pro Ser Trp Ser Ser
               100                 105                 110

Val Asp Trp Lys Ser Leu Pro Tyr Leu Gln Ile Leu Lys Lys Pro Ile
           115                 120                 125

Ser Glu Val Ser Asp Gly Ala Phe Phe Asp Tyr Met Ala Val Tyr Leu
    130                 135                 140

Met Cys Cys Pro Tyr Thr Arg Arg Ala Ser Lys Ser Ser Arg Pro Met
145                 150                 155                 160

Tyr Gly Ala Val Thr Ser Phe Leu His Ser Leu Ile Ile Pro Asn Glu
```

-8-

Pro Arg Phe Ala Leu Phe Gly Pro Arg Leu Glu Gln Leu Asn Thr Ser
            180   185   190

Leu Val Leu Ser Leu Leu Ser Ser Glu Glu Leu Cys Pro Thr Ala Gly
            195   200   205

Leu Pro Gln Arg Gln Ile Asp Gly Ile Gly Ser Gly Val Asn Phe Gln
    210   215   220

Leu Asn Asn Gln His Lys Phe Asn Ile Leu Ile Leu Tyr Ser Thr Thr
225   230   235   240

Arg Lys Glu Arg Asp Arg Ala Arg Glu Glu His Thr Ser Ala Val Asn
                245   250   255

Lys Met Phe Ser Arg His Asn Glu Gly Asp Asp Arg Pro Gly Ser Arg
            260   265   270

Tyr Ser Val Ile Pro Gln Ile Gln Lys Leu Cys Glu Val Val Asp Gly
    275   280   285

Phe Ile Tyr Val Ala Asn Ala Glu Ala His Lys Arg His Glu Trp Gln
    290   295   300

Asp Glu Phe Ser His Ile Met Ala Met Thr Asp Pro Ala Phe Gly Ser
305   310   315   320

Ser Gly Arg Pro Leu Leu Val Leu Ser Cys Ile Ser Gln Gly Asp Val
            325   330   335

Lys Arg Met Pro Cys Phe Tyr Leu Ala His Glu Leu His Leu Asn Leu
            340   345   350

Leu Asn His Pro Trp Leu Val Gln Asp Thr Glu Ala Glu Thr Leu Thr
            355   360   365

Gly Phe Leu Asn Gly Ile Glu Trp Ile Leu Glu Glu Val Glu Ser Lys
    370   375   380

Arg Ala Arg Phe Ser Phe Gln Ile Leu Gly Thr Glu Thr Ile Asn Leu
385   390   395   400

Leu Leu Arg Ser Cys Glu Tyr Leu Leu Ser Gln Pro Thr Leu Ser Cys
            405   410   415

Leu Phe Ala Asp Arg Leu Ser Phe Gly Gln Leu Leu Leu Cys Phe Leu
            420   425   430

Tyr Tyr Phe Tyr Phe Leu Pro Ile Asn Tyr Lys Lys Arg Val Ser Val
    435   440   445

Leu Val Phe Ser Pro Lys Met Asn Leu Thr Phe Phe Trp Phe Leu Tyr
    450   455   460

Phe Leu Ser Phe Lys Tyr Ile Leu
465   470

<210> 9

-9-

<211> 2076
<212> DNA
<213> Homo sapiens

<400> 9
aggttgctca gctgcccccg gagcggttcc tccacctgag gcagacacca cctcggttgg 60
catgagccgg cgcccctgca gctgcgccct acggccaccc cgctgctcct gcagcgccag 120
ccccagcgca gtgacagccg ccgggcgccc tcgaccctcg gatagttgta aagaagaaag 180
ttctacccctt tctgtcaaaa tgaagtgtga ttttaattgt aaccatgttc attccggact 240
taaactggta aaacctgatg acattggaag actagtttcc tacacccctg catatctgga 300
aggttcctgt aaagactgca ttaaagacta tgaaaggctg tcatgtattg ggtcaccgat 360
tgtgagccct aggattgtac aacttgaaac tgaaagcaag cgcttgcata caaggaaaa 420
tcaacatgtg caacagacac ttaatagtac aaatgaaata gaagcactag agaccagtag 480
actttatgaa gacagtggct attcctcatt ttctctacaa agtggcctca gtgaacatga 540
agaaggtagc ctcctggagg agaatttcgg tgacagtcta caatcctgcc tgctacaaat 600
acaaagccca gaccaatatc ccaacaaaaa cttgctgcca gttcttcatt ttgaaaaagt 660
ggtttgttca acattaaaaa agaatgcaaa acgaaatcct aaagtagatc gggagatgct 720
gaaggaaatt atagccagag gaaatttttag actgcagaat ataattggca gaaaaatggg 780
cctagaatgt gtagatattc tcagcgaact ctttcgaagg ggactcagac atgtcttagc 840
aactatttta gcacaactca gtgacatgga cttaatcaat gtgtctaaag tgagcacaac 900
ttggaagaag atcctagaag atgataaggg ggcattccag ttgtacagta aagcaataca 960
aagagttacc gaaaacaaca ataaattttc acctcatgct caaccagag aatatgttat 1020
gttcagaacc ccactggctt ctgttcagaa atcagcagcc cagacttctc tcaaaaaaga 1080
tgctcaaacc aagttatcca atcaaggtga tcagaaaggt tctacttata gtcgacacaa 1140
tgaattctct gaggttgcca agacattgaa aaagaacgaa agcctcaaag cctgtattcg 1200
ctgtaattca cctgcaaaat atgattgcta tttacaacgg gcaacctgca aacgagaagg 1260
ctgtggattt gattattgta cgaagtgtct ctgtaattat catactacta aagactgttc 1320
agatggcaag ctcctcaaag ccagttgtaa aataggtccc ctgcctggta caaagaaaag 1380
caaaaagaat ttacgaagat tgtgatctct tattaaatca attgttactg atcatgaatg 1440
ttagttagaa aatgttaggt tttaacttaa aaaaaattgt attgtgattt tcaatttttat 1500
gttgaaatcg gtgtagtatc ctgaggtttt tttcccccca gaagataaag aggatagaca 1560
acctcttaaa atattttttac aatttaatga gaaaaagttt aaaattctca atacaaatca 1620
aacaatttaa atatttttaag aaaaaaggaa aagtagatag tgatactgag ggtaaaaaaa 1680
aaattgattc aatttttatgg taaggaaac ccatgcaatt ttacctagac agtcttaaat 1740
atgtctggtt ttccatctgt tagcatttca gacattttat gttcctctta ctcaattgat 1800
accaacagaa atatcaactt ctggagtcta ttaaatgtgt tgtcaccttt ctaaagcttt 1860
ttttcattgt gtgtatttcc caagaaagta tcctttgtaa aaacttgctt gttttcctta 1920
tttctgaaat ctgtttttaat attttttgtat acatgtaaat atttctgtat tttttatatg 1980
tcaaagaata tgtctcttgt atgtacatat aaaaataaat tttgctcaat aaaattgtaa 2040
gcttaaaaaa aaaaaaaaaa aactcgagac tagtgc 2076

<210> 10
<211> 447
<212> PRT
<213> Homo sapiens

<400> 10

```
Met Ser Arg Arg Pro Cys Ser Cys Ala Leu Arg Pro Pro Arg Cys Ser
1               5                   10                  15

Cys Ser Ala Ser Pro Ser Ala Val Thr Ala Ala Gly Arg Pro Arg Pro
            20                  25                  30

Ser Asp Ser Cys Lys Glu Glu Ser Ser Thr Leu Ser Val Lys Met Lys
        35                  40                  45

Cys Asp Phe Asn Cys Asn His Val His Ser Gly Leu Lys Leu Val Lys
    50                  55                  60

Pro Asp Asp Ile Gly Arg Leu Val Ser Tyr Thr Pro Ala Tyr Leu Glu
65                  70                  75                  80
```

-10-

```
Gly Ser Cys Lys Asp Cys Ile Lys Asp Tyr Glu Arg Leu Ser Cys Ile
            85                    90                    95

Gly Ser Pro Ile Val Ser Pro Arg Ile Val Gln Leu Glu Thr Glu Ser
            100                   105                   110

Lys Arg Leu His Asn Lys Glu Asn Gln His Val Gln Gln Thr Leu Asn
            115                   120                   125

Ser Thr Asn Glu Ile Glu Ala Leu Glu Thr Ser Arg Leu Tyr Glu Asp
    130               135               140

Ser Gly Tyr Ser Ser Phe Ser Leu Gln Ser Gly Leu Ser Glu His Glu
145               150               155               160

Glu Gly Ser Leu Leu Glu Glu Asn Phe Gly Asp Ser Leu Gln Ser Cys
            165               170               175

Leu Leu Gln Ile Gln Ser Pro Asp Gln Tyr Pro Asn Lys Asn Leu Leu
            180               185               190

Pro Val Leu His Phe Glu Lys Val Val Cys Ser Thr Leu Lys Lys Asn
            195               200               205

Ala Lys Arg Asn Pro Lys Val Asp Arg Glu Met Leu Lys Glu Ile Ile
    210               215               220

Ala Arg Gly Asn Phe Arg Leu Gln Asn Ile Ile Gly Arg Lys Met Gly
225               230               235               240

Leu Glu Cys Val Asp Ile Leu Ser Glu Leu Phe Arg Arg Gly Leu Arg
            245               250               255

His Val Leu Ala Thr Ile Leu Ala Gln Leu Ser Asp Met Asp Leu Ile
            260               265               270

Asn Val Ser Lys Val Ser Thr Thr Trp Lys Lys Ile Leu Glu Asp Asp
            275               280               285

Lys Gly Ala Phe Gln Leu Tyr Ser Lys Ala Ile Gln Arg Val Thr Glu
    290               295               300

Asn Asn Asn Lys Phe Ser Pro His Ala Ser Thr Arg Glu Tyr Val Met
305               310               315               320

Phe Arg Thr Pro Leu Ala Ser Val Gln Lys Ser Ala Ala Gln Thr Ser
            325               330               335

Leu Lys Lys Asp Ala Gln Thr Lys Leu Ser Asn Gln Gly Asp Gln Lys
            340               345               350

Gly Ser Thr Tyr Ser Arg His Asn Glu Phe Ser Glu Val Ala Lys Thr
    355               360               365

Leu Lys Lys Asn Glu Ser Leu Lys Ala Cys Ile Arg Cys Asn Ser Pro
    370               375               380

Ala Lys Tyr Asp Cys Tyr Leu Gln Arg Ala Thr Cys Lys Arg Glu Gly
385               390               395               400
```

```
Cys Gly Phe Asp Tyr Cys Thr Lys Cys Leu Cys Asn Tyr His Thr Thr
                405                 410                 415

Lys Asp Cys Ser Asp Gly Lys Leu Leu Lys Ala Ser Cys Lys Ile Gly
            420                 425                 430

Pro Leu Pro Gly Thr Lys Lys Ser Lys Lys Asn Leu Arg Arg Leu
        435                 440                 445
```

<210> 11
<211> 1535
<212> DNA
<213> Homo sapiens

<400> 11
```
gcgcgttcgg gagcttcggc cctgcgtagg aggcgggtgc aggtgtgggt gctgagccgc 60
ccgccgcctg gagggggaga cagcttcagg acacgcaggc cgcagcgagg gcccgggccc 120
gggggatccc aggccatgga cgctccccac tccaaagcag ccctggacag cattaacgag 180
ctgcccgata acatcctgct ggagctgttc acgcacgtgc ccgcccgcca gctgctgctg 240
aactgccgcc tggtctgcag cctctggcgg gacctcatcg acctcctgac cctctggaaa 300
cgcaagtgcc tgcgaaaggg cttcatcacc aaggactggg accagcccgt ggccgactgg 360
aaaatcttct acttcctacg gagcctgcat aggaacctcc tgcgcaaccc gtgtgctgaa 420
aacgatatgt ttgcatggca aattgatttc aatggtgggg accgctggaa ggtggatagc 480
ctccctggag cccacgggac agaatttcct gaccccaaag tcaagaagtc ttttgtcaca 540
tcctacgaac tgtgcctcaa gtgggagctg gtggaccttc tagccgaccg ctactgggag 600
gagctactag acacattccg gccggacatc gtggttaagg actggtttgc tgccagagcc 660
gactgtggct gcacctacca actcaaagtg cagctggcct cggctgacta cttcgtgttg 720
gcctccttcg agcccccacc tgtgaccatc aacagtgga acaatgccac atggacagag 780
gtctcctaca ccttctcaga ctaccccgg ggtgtccgct acatcctctt ccagcatggg 840
ggcagggaca cccagtactg ggcaggctgg tatgggcccc gagtcaccaa cagcagcatt 900
gtcgtcagcc ccaagatgac caggaaccag gcctcgtccg aggctcagcc tgggcagaag 960
catggacagg aggaggctgc ccaatcgccc tacggagctg ttgtccagat tttctgacag 1020
ctgtccatcc tgtgtctggg tcagccagag gttcctccag gcaggagctg agcatggggt 1080
gggcagtgag gtccctgtac cagcgactcc tgccccggtt caaccctacc agcttgtggt 1140
aacttactgt cacatagctc tgacgttttg ttgtaataaa tgttttcagg ccgggcactg 1200
tggctcacgc ctgtaatccc agcactttgg gagaccgagg caggtggatc acgaggtcag 1260
gagacagaga ccatcctggc caacacggtg aaaccctgtc tctactaaaa atacaaaaaa 1320
ttagccgggc gtggtggcgg cgcctgtag tcccagctac tcgggaggct gatgcagaag 1380
aatggcgtga acccggaagg cagagcttgc agtgagccga gatcacgcca ctgcactcca 1440
gcctgggtga cagagcgaga ctctggctca taaaataata ataataataa ataaataaaa 1500
aataaatggt tttcagtaaa aaaaaaaaa aaaaa 1535
```

<210> 12
<211> 338
<212> PRT
<213> Homo sapiens

<400> 12
```
Ala Arg Ser Gly Ala Ser Ala Leu Arg Arg Arg Arg Val Gln Val Trp
  1               5                  10                  15

Val Leu Ser Arg Pro Pro Pro Gly Gly Gly Asp Ser Phe Arg Thr Arg
            20                  25                  30

Arg Pro Gln Arg Gly Pro Gly Pro Gly Gly Ser Gln Ala Met Asp Ala
            35                  40                  45

Pro His Ser Lys Ala Ala Leu Asp Ser Ile Asn Glu Leu Pro Asp Asn
        50                  55                  60
```

```
Ile Leu Leu Glu Leu Phe Thr His Val Pro Ala Arg Gln Leu Leu Leu
 65              70              75                      80

Asn Cys Arg Leu Val Cys Ser Leu Trp Arg Asp Leu Ile Asp Leu Leu
             85              90                      95

Thr Leu Trp Lys Arg Lys Cys Leu Arg Lys Gly Phe Ile Thr Lys Asp
            100             105             110

Trp Asp Gln Pro Val Ala Asp Trp Lys Ile Phe Tyr Phe Leu Arg Ser
        115             120             125

Leu His Arg Asn Leu Leu Arg Asn Pro Cys Ala Glu Asn Asp Met Phe
    130             135             140

Ala Trp Gln Ile Asp Phe Asn Gly Gly Asp Arg Trp Lys Val Asp Ser
145             150             155                     160

Leu Pro Gly Ala His Gly Thr Glu Phe Pro Asp Pro Lys Val Lys Lys
            165             170             175

Ser Phe Val Thr Ser Tyr Glu Leu Cys Leu Lys Trp Glu Leu Val Asp
            180             185             190

Leu Leu Ala Asp Arg Tyr Trp Glu Glu Leu Leu Asp Thr Phe Arg Pro
    195             200             205

Asp Ile Val Val Lys Asp Trp Phe Ala Ala Arg Ala Asp Cys Gly Cys
    210             215             220

Thr Tyr Gln Leu Lys Val Gln Leu Ala Ser Ala Asp Tyr Phe Val Leu
225             230             235                     240

Ala Ser Phe Glu Pro Pro Pro Val Thr Ile Gln Gln Trp Asn Asn Ala
            245             250             255

Thr Trp Thr Glu Val Ser Tyr Thr Phe Ser Asp Tyr Pro Arg Gly Val
            260             265             270

Arg Tyr Ile Leu Phe Gln His Gly Gly Arg Asp Thr Gln Tyr Trp Ala
    275             280             285

Gly Trp Tyr Gly Pro Arg Val Thr Asn Ser Ser Ile Val Val Ser Pro
    290             295             300

Lys Met Thr Arg Asn Gln Ala Ser Ser Glu Ala Gln Pro Gly Gln Lys
305             310             315                     320

His Gly Gln Glu Glu Ala Ala Gln Ser Pro Tyr Gly Ala Val Val Gln
            325             330             335

Ile Phe
```

<210> 13
<211> 1763
<212> DNA
<213> Homo sapiens

<400> 13

-13-

```
tggaattccc atggaccatg tctaataccc gatttacaat tacattgaac tacaaggatc 60
ccctcactgg agatgaagag accttggctt catatgggat tgtttctggg gacttgatat 120
gtttgattct tcacgatgac attccaccgc ctaatatacc ttcatccaca gattcagagc 180
attcttcact ccagaacaat gagcaaccct ctttggccac cagctccaat cagactagca 240
tacaggatga caaccaagt gattcattcc aaggacaggc agcccagtct ggtgtttgga 300
atgacgacag tatgttaggg cctagtcaaa attttgaagc tgagtcaatt caagataatg 360
cgcatatggc agagggcaca ggtttctatc cctcagaacc cctgctctgt agtgaatcgg 420
tggaagggca agtgccacat tcattagaga ccttgtatca atcagctgac tgttctgatg 480
ccaatgatgc gttgatagtg ttgatacatc ttctcatgtt ggagtcaggt tacatacctc 540
agggcaccga agccaaagca ctgtccctgc cggagaagtg gaagttgagc ggggtgtata 600
agctgcagta catgcatcat ctctgcgagg gcagctccgc tactctcacc tgtgtgcctt 660
tgggaaacct gattgttgta aatgctacac taaaaatcaa caatgagatt agaagtgtga 720
aaagattgca gctgctacca gaatctttta tttgcaaaga gaaactaggg aaaatgtag 780
ccaacatata caaagatctt cagaaactct ctcgcctctt taaagaccag ctggtgtatc 840
ctcttctggc ttttacccga caagcactga acctaccaaa tgtatttggg ttggtcgtcc 900
tcccattgga actgaaacta cggatcttcc gacttctgga tgttcgttcc gtcttgtctt 960
tgtctgcggt ttgtcgtgac ctctttactg cttcaaatga cccactcctg tggaggtttt 1020
tatatctgcg tgattttcga gacaatactg tcagagttca agacacagat tggaaagaac 1080
tgtacaggaa gaggcacata caaagaaaag aatccccgaa agggcggttt gtgctgctcc 1140
tgccatcgtc aacccacacc attccattct atcccaaccc cttgcaccct aggccatttc 1200
ctagctcccg cctcctccca ggaattatcg ggggtgaata tgaccaaaga ccaacacttc 1260
cctatgttgg agacccaatc agttcactca ttcctggtcc tggggagacg cccagccagt 1320
tacctccact gagaccacgc tttgatccag ttggcccact tccaggacct aaccccatct 1380
tgccagggcg aggcggcccc aatgacagat ttccctttag acccagcagg ggtcggccaa 1440
ctgatggccg cctgtcattc atgtgattga tttgtaattt catttctgga gctccatttg 1500
tttttgtttc taaactacag atgtcactcc ttggggtgct gatctcgagt gttattttct 1560
gattgtggtg ttgagagttg cactcccaga aacctttaa gagatacatt tatagcccta 1620
ggggtggtat gacccaaagg ttcctctgtg acaaggttgg ccttgggaat agttggctgc 1680
caatctccct gctcttggtt ctcctctaga ttgaagtttg ttttctgatg ctgttcttac 1740
cagattaaaa aaaagtgtaa att                                       1763
```

<210> 14
<211> 482
<212> PRT
<213> Homo sapiens

<400> 14

```
Met Ser Asn Thr Arg Phe Thr Ile Thr Leu Asn Tyr Lys Asp Pro Leu
 1               5                  10                  15


Thr Gly Asp Glu Glu Thr Leu Ala Ser Tyr Gly Ile Val Ser Gly Asp
              20                  25                  30


Leu Ile Cys Leu Ile Leu His Asp Asp Ile Pro Pro Pro Asn Ile Pro
              35                  40                  45


Ser Ser Thr Asp Ser Glu His Ser Ser Leu Gln Asn Asn Glu Gln Pro
         50                  55                  60


Ser Leu Ala Thr Ser Ser Asn Gln Thr Ser Ile Gln Asp Glu Gln Pro
 65                  70                  75                  80


Ser Asp Ser Phe Gln Gly Gln Ala Ala Gln Ser Gly Val Trp Asn Asp
                   85                  90                  95


Asp Ser Met Leu Gly Pro Ser Gln Asn Phe Glu Ala Glu Ser Ile Gln
              100                 105                 110


Asp Asn Ala His Met Ala Glu Gly Thr Gly Phe Tyr Pro Ser Glu Pro
         115                 120                 125
```

-14-

```
Leu Leu Cys Ser Glu Ser Val Glu Gly Gln Val Pro His Ser Leu Glu
    130             135             140
Thr Leu Tyr Gln Ser Ala Asp Cys Ser Asp Ala Asn Asp Ala Leu Ile
145             150             155             160
Val Leu Ile His Leu Leu Met Leu Glu Ser Gly Tyr Ile Pro Gln Gly
                165             170             175
Thr Glu Ala Lys Ala Leu Ser Leu Pro Glu Lys Trp Lys Leu Ser Gly
            180             185             190
Val Tyr Lys Leu Gln Tyr Met His His Leu Cys Glu Gly Ser Ser Ala
            195             200             205
Thr Leu Thr Cys Val Pro Leu Gly Asn Leu Ile Val Val Asn Ala Thr
    210             215             220
Leu Lys Ile Asn Asn Glu Ile Arg Ser Val Lys Arg Leu Gln Leu Leu
225             230             235             240
Pro Glu Ser Phe Ile Cys Lys Glu Lys Leu Gly Glu Asn Val Ala Asn
            245             250             255
Ile Tyr Lys Asp Leu Gln Lys Leu Ser Arg Leu Phe Lys Asp Gln Leu
            260             265             270
Val Tyr Pro Leu Leu Ala Phe Thr Arg Gln Ala Leu Asn Leu Pro Asn
            275             280             285
Val Phe Gly Leu Val Val Leu Pro Leu Glu Leu Lys Leu Arg Ile Phe
    290             295             300
Arg Leu Leu Asp Val Arg Ser Val Leu Ser Leu Ser Ala Val Cys Arg
305             310             315             320
Asp Leu Phe Thr Ala Ser Asn Asp Pro Leu Leu Trp Arg Phe Leu Tyr
            325             330             335
Leu Arg Asp Phe Arg Asp Asn Thr Val Arg Val Gln Asp Thr Asp Trp
            340             345             350
Lys Glu Leu Tyr Arg Lys Arg His Ile Gln Arg Lys Glu Ser Pro Lys
            355             360             365
Gly Arg Phe Val Leu Leu Leu Pro Ser Ser Thr His Thr Ile Pro Phe
    370             375             380
Tyr Pro Asn Pro Leu His Pro Arg Pro Phe Pro Ser Ser Arg Leu Pro
385             390             395             400
Pro Gly Ile Ile Gly Gly Glu Tyr Asp Gln Arg Pro Thr Leu Pro Tyr

                405             410             415
Val Gly Asp Pro Ile Ser Ser Leu Ile Pro Gly Pro Gly Glu Thr Pro
            420             425             430
Ser Gln Leu Pro Pro Leu Arg Pro Arg Phe Asp Pro Val Gly Pro Leu
    435             440             445
```

-15-

Pro Gly Pro Asn Pro Ile Leu Pro Gly Arg Gly Gly Pro Asn Asp Arg
    450   455   460

Phe Pro Phe Arg Pro Ser Arg Gly Arg Pro Thr Asp Gly Arg Leu Ser
465   470   475   480

Phe Met

<210> 15
<211> 43
<212> PRT
<213> Homo sapiens

<400> 15
Leu Pro Ala Arg Gly Leu Asp His Ile Ala Glu Asn Ile Leu Ser Tyr
    1   5   10   15

Leu Asp Ala Lys Ser Leu Cys Ala Ala Glu Leu Val Cys Lys Glu Trp
                20   25   30

Tyr Arg Val Thr Ser Asp Gly Met Leu Trp Lys
        35   40

<210> 16
<211> 40
<212> PRT
<213> Homo sapiens

<400> 16
Leu Pro Leu Glu Leu Ser Phe Tyr Leu Leu Lys Trp Leu Asp Pro Gln
    1   5   10   15

Thr Leu Leu Thr Cys Cys Leu Val Ser Lys Gln Trp Asn Lys Val Ile
                20   25   30

Ser Ala Cys Thr Glu Val Trp Gln
        35   40

<210> 17
<211> 39
<212> PRT
<213> Homo sapiens

<400> 17
Leu Leu Gln Asp Ile Ile Leu Gln Val Phe Lys Tyr Leu Pro Leu Leu
    1   5   10   15

Asp Arg Ala His Ala Ser Gln Val Cys Arg Asn Trp Asn Gln Val Phe
                20   25   30

His Met Pro Asp Leu Trp Arg
        35

<210> 18
<211> 39

<212> PRT
<213> Homo sapiens

<400> 18
Leu Pro Ile Asp Val Gln Leu Tyr Ile Leu Ser Phe Leu Ser Pro His
 1   5   10   15

Asp Leu Cys Gln Leu Gly Ser Thr Asn His Tyr Trp Asn Glu Thr Val
            20   25   30

Arg Asn Pro Ile Leu Trp Arg
        35

<210> 19
<211> 39
<212> PRT
<213> Homo sapiens

<400> 19
Leu Arg His Val Leu Ala Thr Ile Leu Ala Gln Leu Ser Asp Met Asp
 1   5   10   15

Leu Ile Asn Val Ser Lys Val Ser Thr Thr Trp Lys Lys Ile Leu Glu
            20   25   30

Asp Asp Lys Gly Ala Phe Gln
        35

<210> 20
<211> 40
<212> PRT
<213> Homo sapiens

<400> 20
Leu Pro Asp Asn Ile Leu Leu Glu Leu Phe Thr His Val Pro Ala Arg
 1   5   10   15

Gln Leu Leu Leu Asn Cys Arg Leu Val Cys Ser Leu Trp Arg Asp Leu
            20   25   30

Ile Asp Leu Leu Thr Leu Trp Lys
        35   40

<210> 21
<211> 39
<212> PRT
<213> Homo sapiens

<400> 21
Leu Pro Leu Glu Leu Lys Leu Arg Ile Phe Arg Leu Leu Asp Val Arg
 1   5   10   15

Ser Val Leu Ser Leu Ser Ala Val Cys Arg Asp Leu Phe Thr Ala Ser
            20   25   30

Asn Asp Pro Leu Leu Trp Arg
        35

-17-

<210> 22
<211> 39
<212> PRT
<213> Homo sapiens

<400> 22
Leu Pro Asp Glu Leu Leu Leu Gly Ile Phe Ser Cys Leu Cys Leu Pro
 1   5   10   15

Glu Leu Leu Lys Val Ser Gly Val Cys Lys Arg Trp Tyr Arg Leu Ala
            20   25   30

Ser Asp Glu Ser Leu Trp Gln
         35

<210> 23
<211> 1323
<212> DNA
<213> Homo sapiens

<400> 23
acattttcta atgtttacag aatgaagagg aacagtttat ctgttgagaa taaaattgtc   60
cagttgtcag gagcagcgaa acagccaaaa gttgggttct actcttctct caaccagact 120
catacacaca cggttcttct agactggggg agtttgcctc accatgtagt attacaaatt 180
tttcagtatc ttcctttact agatcgggcc tgtgcatctt ctgtatgtag gaggtggaat 240
gaagttttc atatttctga cctttggaga aagtttgaat ttgaactgaa ccagtcagct 300
acttcatctt ttaagtccac tcatcctgat ctcattcagc agatcattaa aaagcatttt 360
gctcatcttc agtatgtcag ctttaaggtt gacagtagcg ctgagtcagc agaagctgcc 420
tgtgatatac tctctcagct ggtaaattgt tccatccaga ccttgggctt gatttcaaca 480
gccaagccaa gtttcatgaa tgtgtcggag tctcattttg tgtcagcact tacagttgtt 540
tttatcaact caaaatcatt atcatcaatc aaaattgaag atacaccagt ggatgatcct 600
tcattgaaga ttcttgtggc caataatagt gacactctaa gactcccaaa gatgagtagc 660
tgtcctcatg tttcatctga tggaattctt tgtgtagctg accgttgtca aggccttaga 720
gaactggcgt tgaattatta catcctaact gatgaacttt ccttgcact ctcaagcgag 780
actcatgtta accttgaaca tcttcgaatt gatgttgtga gtgaaaatcc tggacagatt 840
aaatttcatg ctgttaaaaa acacagttgg gatgcactta ttaaacattc ccctagagtt 900
aatgttgtta tgcacttctt tctatatgaa gaggaattcg agacgttctt caaagaagaa 960
accctgtta ctcacctta ttttggtcgt tcagtcagca aagtggtttt aggacgggta 1020
ggtctcaact gtcctcgact gattgagtta gtggtgtgtg ctaatgatct tcagcctctt 1080
gataatgaac ttatttgtat tgctgaacac tgtacaaacc taacagcctt gggcctcagc 1140
aaatgtgaag ttagctgcag tgccttcatc aggtttgtaa gactgtgtga gagaaggtta 1200
acacagctct ctgtaatgga ggaagttttg atccctgatg aggattatag cctagatgaa 1260
attcacactg aagtctccaa atacctggga agagtatggt tccctgatgt gatgcctctc 1320
tgg   1323

<210> 24
<211> 434
<212> PRT
<213> Homo sapiens

<400> 24
Met Lys Arg Asn Ser Leu Ser Val Glu Asn Lys Ile Val Gln Leu Ser
 1   5   10   15

Gly Ala Ala Lys Gln Pro Lys Val Gly Phe Tyr Ser Ser Leu Asn Gln
            20   25   30

Thr His Thr His Thr Val Leu Leu Asp Trp Gly Ser Leu Pro His His
         35   40   45

```
Val Val Leu Gln Ile Phe Gln Tyr Leu Pro Leu Leu Asp Arg Ala Cys
    50              55              60

Ala Ser Ser Val Cys Arg Arg Trp Asn Glu Val Phe His Ile Ser Asp
65              70              75              80

Leu Trp Arg Lys Phe Glu Phe Glu Leu Asn Gln Ser Ala Thr Ser Ser
            85              90              95

Phe Lys Ser Thr His Pro Asp Leu Ile Gln Gln Ile Ile Lys Lys His
        100             105             110

Phe Ala His Leu Gln Tyr Val Ser Phe Lys Val Asp Ser Ser Ala Glu
        115             120             125

Ser Ala Glu Ala Ala Cys Asp Ile Leu Ser Gln Leu Val Asn Cys Ser
    130             135             140

Ile Gln Thr Leu Gly Leu Ile Ser Thr Ala Lys Pro Ser Phe Met Asn
145             150             155             160

Val Ser Glu Ser His Phe Val Ser Ala Leu Thr Val Val Phe Ile Asn
            165             170             175

Ser Lys Ser Leu Ser Ser Ile Lys Ile Glu Asp Thr Pro Val Asp Asp
        180             185             190

Pro Ser Leu Lys Ile Leu Val Ala Asn Asn Ser Asp Thr Leu Arg Leu
        195             200             205

Pro Lys Met Ser Ser Cys Pro His Val Ser Ser Asp Gly Ile Leu Cys
    210             215             220

Val Ala Asp Arg Cys Gln Gly Leu Arg Glu Leu Ala Leu Asn Tyr Tyr
225             230             235             240

Ile Leu Thr Asp Glu Leu Phe Leu Ala Leu Ser Ser Glu Thr His Val
            245             250             255

Asn Leu Glu His Leu Arg Ile Asp Val Val Ser Glu Asn Pro Gly Gln
        260             265             270

Ile Lys Phe His Ala Val Lys Lys His Ser Trp Asp Ala Leu Ile Lys
        275             280             285

His Ser Pro Arg Val Asn Val Val Met His Phe Phe Leu Tyr Glu Glu
    290             295             300

Glu Phe Glu Thr Phe Phe Lys Glu Glu Thr Pro Val Thr His Leu Tyr
305             310             315             320

Phe Gly Arg Ser Val Ser Lys Val Val Leu Gly Arg Val Gly Leu Asn
            325             330             335

Cys Pro Arg Leu Ile Glu Leu Val Val Cys Ala Asn Asp Leu Gln Pro
        340             345             350

Leu Asp Asn Glu Leu Ile Cys Ile Ala Glu His Cys Thr Asn Leu Thr
        355             360             365
```

-19-

Ala Leu Gly Leu Ser Lys Cys Glu Val Ser Cys Ser Ala Phe Ile Arg
    370   375   380

Phe Val Arg Leu Cys Glu Arg Arg Leu Thr Gln Leu Ser Val Met Glu
385   390   395   400

Glu Val Leu Ile Pro Asp Glu Asp Tyr Ser Leu Asp Glu Ile His Thr
            405   410   415

Glu Val Ser Lys Tyr Leu Gly Arg Val Trp Phe Pro Asp Val Met Pro
            420   425   430

Leu Trp

<210> 25
<211> 1970
<212> DNA
<213> Homo sapiens

<400> 25
ggaaacgtca aaattgggat agtcggcagt tctggcccct gcagctggag gtaccctgag 60
ttctgagggt cgtagtgctg tttctggtat tctcatcgcg gtcacctcta ccggtgtgga 120
caagtaaagt ttgaatcagc ttctccatgg cctgggcacc agttcccggc tgagccattt 180
tccttttggc taaaagtccc cgcccagagg ccaattcgtc gcggcggcgg tggagatcgc 240
aggtcgctca ggcttgcaga tgggtcaagg gttgtggaga gtggtcagaa accagcagct 300
gcaacaagaa ggctacagtg agcaaggcta cctcaccaga gagcagagca ggagaatggc 360
tgcgagcaac atttctaaca ccaatcatcg taaacaagtc caaggaggca ttgacatata 420
tcatcttttg aaggcaagga aatcgaaaga acaggaagga ttcattaatt tggaaatgtt 480
gcctcctgag ctaagcttta ccatcttgtc ctacctgaat gcaactgacc tttgcttggc 540
ttcatgtgtt tggcaggacc ttgcgaatga tgaacttctc tggcaagggt tgtgcaaatc 600
cacttggggt cactgttcca tatacaataa gaacccacct ttaggatttt cttttagaaa 660
aktgtatatg cagctggatg aaggcagcct cacctttaat gccaacccag atgagggagt 720
gaactacttt atgtccaagg gtatcctgga tgattcgcca aaggaaatag caaagtttat 780
cttctgtaca agaacactaa attggaaaaa actgagaatc tatcttgatg aaaggagaga 840
tgtcttggat gaccttgtaa cattgcataa ttttagaaat cagttcttgc caaatgcact 900
gagagaattt tttcgtcata tccatgcccc tgaagagcgt ggagagtatc ttgaaactct 960
tataacaaag ttctcacata gattctgtgc ttgcaaccct gatttaatgc gagaacttgg 1020
ccttagtcct gatgctgtct atgtactgtg ctactctttg attctacttt ccattgacct 1080
cactagccct catgtgaaga ataaaatgtc aaaaagggaa tttattcgaa atacccgtcg 1140
cgctgctcaa aatattagtg aagattttgt agggcatctt tatgacaata tctaccttat 1200
tggccatgtg gctgcataaa aagcacaatt gctaggactt cagtttttac ttcagactaa 1260
agctacccaa ggacttagca gatatggggg ttacatcagt gctggtcatt gtagcctgag 1320
tatacaatca agcttcagtg tgcaaccttt ttttcttttg ccattttcta ttttagtaat 1380
ttccttgggg aactaaataa ttttgcagaa ttttttcctaa ttttgtttat cacgttttgc 1440
acaaagcaga gccactgtct aacacagctg ttaacgaatg ataaactgac attatactct 1500
aaaagatggt gtatttgtgc attagatttg cctgaaaaac tttatccatt tccattcttt 1560
atacaaatac catgtaatgt gtacatattt aactaaagag atttatagtc ataattattt 1620
tattgtaaag attttaacta aagttttcc ttttctctca aactgagttc tgaaatttat 1680
ttgattctga tctgaaacta ttgtctycgt aaaagttaga tctgacttca grcagaaacc 1740
aataccagct tccttttcct ttaaactttg aagagtgttg atttgttact atattactat 1800
gcaaaactgg cagttatttt tataatataa atttataatt tgattttta ttttaaaaac 1860
tgggttaatc aagtctcggt aagtccttta aaccatttag gattttaaa acatcaaaat 1920
ttatgattta cattcatagg aataaaataa atatyatta gaactctggt 1970

<210> 26
<211> 634
<212> PRT

-20-

<213> Homo sapiens

<220>
<221> SITE
<222> all Xaa positions
<223> Xaa=unknown amino acid residue

<400> 26
Glu Thr Ser Lys Leu Gly Ser Ala Val Leu Ala Pro Ala Ala Gly Gly
 1   5   10   15

Thr Leu Ser Ser Glu Gly Arg Ser Ala Val Ser Gly Ile Leu Ile Ala
             20   25   30

Val Thr Ser Thr Gly Val Asp Lys Ser Leu Asn Gln Leu Leu His Gly
         35   40   45

Leu Gly Thr Ser Ser Arg Leu Ser His Phe Pro Phe Gly Lys Ser Pro
     50   55   60

Pro Arg Gly Gln Phe Val Ala Ala Ala Val Glu Ile Ala Gly Arg Ser
 65   70   75   80

Gly Leu Gln Met Gly Gln Gly Leu Trp Arg Val Val Arg Asn Gln Gln
             85   90   95

Leu Gln Gln Glu Gly Tyr Ser Glu Gln Gly Tyr Leu Thr Arg Glu Gln
             100   105   110

Ser Arg Arg Met Ala Ala Ser Asn Ile Ser Asn Thr Asn His Arg Lys
         115   120   125

Gln Val Gln Gly Gly Ile Asp Ile Tyr His Leu Leu Lys Ala Arg Lys
     130   135   140

Ser Lys Glu Gln Glu Gly Phe Ile Asn Leu Glu Met Leu Pro Pro Glu
145   150   155   160

Leu Ser Phe Thr Ile Leu Ser Tyr Leu Asn Ala Thr Asp Leu Cys Leu
             165   170   175

Ala Ser Cys Val Trp Gln Asp Leu Ala Asn Asp Glu Leu Leu Trp Gln
         180   185   190

Gly Leu Cys Lys Ser Thr Trp Gly His Cys Ser Ile Tyr Asn Lys Asn
         195   200   205

Pro Pro Leu Gly Phe Ser Phe Arg Lys Xaa Tyr Met Gln Leu Asp Glu
     210   215   220

Gly Ser Leu Thr Phe Asn Ala Asn Pro Asp Glu Gly Val Asn Tyr Phe
225   230   235   240

Met Ser Lys Gly Ile Leu Asp Asp Ser Pro Lys Glu Ile Ala Lys Phe
             245   250   255

Ile Phe Cys Thr Arg Thr Leu Asn Trp Lys Lys Leu Arg Ile Tyr Leu
             260   265   270

Asp Glu Arg Arg Asp Val Leu Asp Asp Leu Val Thr Leu His Asn Phe

-21-

Arg Asn Gln Phe Leu Pro Asn Ala Leu Arg Glu Phe Phe Arg His Ile
    290   295   300

His Ala Pro Glu Glu Arg Gly Glu Tyr Leu Glu Thr Leu Ile Thr Lys
305   310   315   320

Phe Ser His Arg Phe Cys Ala Cys Asn Pro Asp Leu Met Arg Glu Leu
            325   330   335

Gly Leu Ser Pro Asp Ala Val Tyr Val Leu Cys Tyr Ser Leu Ile Leu
            340   345   350

Leu Ser Ile Asp Leu Thr Ser Pro His Val Lys Asn Lys Met Ser Lys
            355   360   365

Arg Glu Phe Ile Arg Asn Thr Arg Arg Ala Ala Gln Asn Ile Ser Glu
    370   375   380

Asp Phe Val Gly His Leu Tyr Asp Asn Ile Tyr Leu Ile Gly His Val
385   390   395   400

Ala Ala Lys Ala Gln Leu Leu Gly Leu Gln Phe Leu Leu Gln Thr Lys
            405   410   415

Ala Thr Gln Gly Leu Ser Arg Tyr Gly Gly Tyr Ile Ser Ala Gly His
            420   425   430

Cys Ser Leu Ser Ile Gln Ser Ser Phe Ser Val Gln Pro Phe Phe Leu
    435   440   445

Leu Pro Phe Ser Ile Leu Val Ile Ser Leu Gly Asn Ile Ile Leu Gln
    450   455   460

Asn Phe Ser Phe Cys Leu Ser Arg Phe Ala Gln Ser Arg Ala Thr Val
465   470   475   480

His Ser Cys Arg Met Ile Asn His Tyr Thr Leu Lys Asp Gly Val Phe
            485   490   495

Val His Ile Cys Leu Lys Asn Phe Ile His Phe His Ser Leu Tyr Lys
            500   505   510

Tyr His Val Met Cys Thr Tyr Leu Thr Lys Glu Ile Tyr Ser His Asn
            515   520   525

Tyr Phe Ile Val Lys Ile Leu Thr Lys Val Phe Pro Phe Leu Ser Asn
    530   535   540

Val Leu Lys Phe Ile Phe Ser Glu Thr Ile Val Xaa Val Lys Val Arg
545   550   555   560

Ser Asp Phe Arg Gln Lys Pro Ile Pro Ala Ser Phe Ser Phe Lys Leu
            565   570   575

Arg Val Leu Ile Cys Tyr Tyr Ile Thr Met Gln Asn Trp Gln Leu Phe
            580   585   590

Leu Tyr Lys Phe Ile Ile Phe Phe Ile Leu Lys Thr Gly Leu Ile Lys
    595   600   605

Ser Arg Val Leu Thr Ile Asp Phe Asn Ile Lys Ile Tyr Asp Leu His
    610   615   620

Ser Glu Asn Lys Ile Xaa Leu Glu Leu Trp
625   630

<210> 27
<211> 4168
<212> DNA
<213> Homo sapiens

<400> 27
gatggcggcg gcagcagtcg acagcgcgat ggaggtggtg ccggcgctgg cggaggaggc 60
cgcgccggag gtagcgggcc tcagctgcct cgtcaacctg ccgggtgagg tgctggagta 120
catcctgtgc tgcggctcgc tgacggccgc cgacatcggc cgtgtctcca gcacctgccg 180
gcggctgcgc gagctgtgcc agagcagcgg gaaggtgtgg aaggagcagt ccgggtgag 240
gtggccttcc cttatgaaac actacagccc caccgactac gtcaattggt tggaagagta 300
taaagttcgg caaaaagctg ggttagaagc gcggaagatt gtagcctcgt tctcaaagag 360
gttcttttca gagcacgttc cttgtaatgg cttcagtgac attgagaacc ttgaaggacc 420
agagattttt tttgaggatg aactggtgtg tatcctaaat atggaaggaa gaaaagcttt 480
gacctggaaa tactacgcaa aaaaaattct ttactacctg cggcaacaga agatcttaaa 540
taatcttaag gcctttcttc agcagccaga tgactatgag tcgtatcttg aaggtgctgt 600
atatattgac cagtactgca atcctctctc cgacatcagc ctcaaagaca tccaggccca 660
aattgacagc atcgtggagc ttgtttgcaa aacccttcgg ggcataaaca gtcgccaccc 720
cagcttggcc ttcaaggcag gtgaatcatc catgataatg gaaatagaac tccagagcca 780
ggtgctggat gccatgaact atgtccttta cgaccaactg aagttcaagg ggaatcgaat 840
ggattactat aatgccctca acttatatat gcatcaggtt ttgattcgca gaacaggaat 900
cccaatcagc atgtctctgc tctatttgac aattgctcgg cagttgggag tcccactgga 960
gcctgtcaac ttcccaagtc acttcttatt aaggtggtgc caaggcgcag aaggggcgac 1020
cctggacatc tttgactaca tctacataga tgcttttggg aaaggcaagc agctgacagt 1080
gaaagaatgc gagtacttga tcggccagca cgtgactgca gcactgtatg gggtggtcaa 1140
tgtcaagaag gtgttacaga gaatggtggg aaacctgtta agcctgggga agcgggaagg 1200
catcgaccag tcataccagc tcctgagaga ctcgctggat ctctatctgg caatgtaccc 1260
ggaccaggtg cagcttctcc tcctccaagc caggctttac ttccacctgg gaatctggcc 1320
agagaaggtg cttgacatcc tccagcacat ccaaacccta gacccggggc agcacggggc 1380
ggtgggctac ctggtgcagc acactctaga gcacattgag cgcaaaaagg aggaggtggg 1440
cgtagaggtg aagctgcgct ccgatgagaa gcacagagat gtctgctact ccatcgggct 1500
cattatgaag cataagaggt atggctataa ctgtgtgatc tacggctggg accccacctg 1560
catgatggga cacgagtgga tccggaacat gaacgtccac agcctgccgc acggccacca 1620
ccagcctttc tataacgtgc tggtggagga cggctcctgt cgatacgcag cccaagaaaa 1680
cttggaatat aacgtggagc ctcaagaaat ctcacaccct gacgtgggac gctatttctc 1740
agagtttact ggcactcact acatcccaaa cgcagagctg gagatccggt atccagaaga 1800
tctggagttt gtctatgaaa cggtgcagaa tatttacagt gcaaagaaag agaacataga 1860
tgagtaaagt ctagagagga cattgcacct ttgctgctgc tgctatcttc caagagaacg 1920
ggactccgga agaagacgtc tccacggagc cctcgggacc tgctgcacca ggaaagccac 1980
tccaccagta gtgctggttg cctcctacta agtttaaata ccgtgtgctc ttccccagct 2040
gcaaagacaa tgttgctctc cgcctacact agtgaattaa tctgaaaggc actgtgtcag 2100
tggcatggct tgtatgcttg tcctgtggtg acagtttgtg acattctgtc ttcatgaggt 2160
ctcacagtcg acgctcctgt aatcattctt tgtattcact ccattcccct gtctgtctgc 2220
atttgtctca gaacatttcc ttggctggac agatggggtt atgcatttgc aataatttcc 2280
ttctgatttc tctgtggaac gtgttcggtc ccgagtgagg actgtgtgtc tttttaccct 2340
gaagttagtt gcatattcag aggtaaagtt gtgtgctatc ttggcagcat cttagagatg 2400
gagacattaa caagctaatg gtaattagaa tcatttgaat ttattttttt ctaatatgtg 2460
aaacacagat ttcaagtgtt ttatcttttt tttttaaatt taaatgggaa tataacacag 2520
ttttcccttc catattcctc tcttgagttt atgcacatct ctataaatca ttagtttttct 2580
attttattac ataaaattct tttagaaaat gcaaatagtg aactttgtga atggattttt 2640
ccatactcat ctacaattcc tccattttaa atgactactt ttattttta atttaaaaaa 2700
tctacttcag tatcatgagt aggtcttaca tcagtgatgg gttcttttg tagtgagaca 2760
tacaaatctg atgttaatgt ttgctcttag aagtcatact ccatggtctt caaagaccaa 2820

-23-

```
aaaatgaggt tttgcctttg taatcaggaa aaaaaaaaat taatgaacct taaaaaaaaa 2880
aaaaaaggtt ttgaagggaa aaaaagtggt ttcacacctc ttgttattcc ttagagtcac 2940
ttcaaggcct gtttgaatgt ggcaggttag aaagagagag aatgtctttc atttgaagag 3000
tgttggactt gtgtgaaagg agatgtgcgt gttggaatct gcttttccaa gccgccaggg 3060
tcctgacggc agcaggacga agcctgttgt ggcgtcttct gggaaagcct gaccgtgtgt 3120
tcggacggca ctggctcctt tccgaagttc tcagtaactg agcccagagt aactgcacgc 3180
ctttgtgcag ctctggagct ccaccaactc tcggcctgcc agttctcaag cgagctaatc 3240
ttgtcattaa tcgatagaag ctaacttccg aagttaggac ctagttactt tgctctcaac 3300
atttaaaata atgcagttgc tctagtgaat ggggcgttag gggcctgtct ctgcacctgt 3360
ctgtccatct gcatgcagta ttctcaccca tgttgaatgc ctgctgcttg tttacccttt 3420
ggaaaccctg gggtgaccaa ggtttggaaa gccacctgag accacttcat agcaagggaa 3480
ggctttaagc agttactaga aagagatggg gatttggccc ctggctcctc cagcctgaat 3540
gagctattta atccactgtc catgttcctc atcagtcaaa tccaaagtca aaggatttga 3600
acctgcatct ggaaacgtaa ccactcacag cacctggccc gccaaggttg ggaggattgt 3660
acactacttt catttaaagg ggaaagtttg ataatacgga attaattaat atgaatgaga 3720
tgcattaata agaacctgag catgctgaga gttgcaattg ttggttttct ggtttgattg 3780
atttcctttt ttcttagaca catcaaagtc aagaaagatg gttttacctt tactgaccca 3840
gctgtacata tgtatctaga ctgtttttaa atgtctttct tcatgaatgc ttcatggggc 3900
tccaggaagc ctgtatcacc tgtgtaagtt ggtatttggg cactttatat ttttctaaaa 3960
acgtgttttg gatcctgtac tctaataaat cataagtttc tttttaaaaa ttttccaaaa 4020
cttttctcca ttttaaaaag ccctgttata aacgttgaac tttcacaatg ttaaaatgtt 4080
aaatatttgg atatagcaac ttcttttctc ttcaaatgaa tgccaagatt tttttgtaca 4140
atgattaata aatggaactt atccagag                                   4168
```

<210> 28
<211> 621
<212> PRT
<213> Homo sapiens

<400> 28
```
Met Ala Ala Ala Ala Val Asp Ser Ala Met Glu Val Val Pro Ala Leu
  1               5                  10                  15

Ala Glu Glu Ala Ala Pro Glu Val Ala Gly Leu Ser Cys Leu Val Asn
             20                  25                  30

Leu Pro Gly Glu Val Leu Glu Tyr Ile Leu Cys Cys Gly Ser Leu Thr
         35                  40                  45

Ala Ala Asp Ile Gly Arg Val Ser Ser Thr Cys Arg Arg Leu Arg Glu
     50                  55                  60

Leu Cys Gln Ser Ser Gly Lys Val Trp Lys Glu Gln Phe Arg Val Arg
 65                  70                  75                  80

Trp Pro Ser Leu Met Lys His Tyr Ser Pro Thr Asp Tyr Val Asn Trp
                 85                  90                  95

Leu Glu Glu Tyr Lys Val Arg Gln Lys Ala Gly Leu Glu Ala Arg Lys
                100                 105                 110

Ile Val Ala Ser Phe Ser Lys Arg Phe Phe Ser Glu His Val Pro Cys
            115                 120                 125

Asn Gly Phe Ser Asp Ile Glu Asn Leu Glu Gly Pro Glu Ile Phe Phe
        130                 135                 140

Glu Asp Glu Leu Val Cys Ile Leu Asn Met Glu Gly Arg Lys Ala Leu
145                 150                 155                 160

Thr Trp Lys Tyr Tyr Ala Lys Lys Ile Leu Tyr Tyr Leu Arg Gln Gln
```

-24-

```
              165                    170                    175

Lys Ile Leu Asn Asn Leu Lys Ala Phe Leu Gln Gln Pro Asp Asp Tyr
            180                185                190

Glu Ser Tyr Leu Glu Gly Ala Val Tyr Ile Asp Gln Tyr Cys Asn Pro
    195                200                205

Leu Ser Asp Ile Ser Leu Lys Asp Ile Gln Ala Gln Ile Asp Ser Ile
    210                215                220

Val Glu Leu Val Cys Lys Thr Leu Arg Gly Ile Asn Ser Arg His Pro
225                230                235                240

Ser Leu Ala Phe Lys Ala Gly Glu Ser Ser Met Ile Met Glu Ile Glu
                245                250                255

Leu Gln Ser Gln Val Leu Asp Ala Met Asn Tyr Val Leu Tyr Asp Gln
            260                265                270

Leu Lys Phe Lys Gly Asn Arg Met Asp Tyr Tyr Asn Ala Leu Asn Leu


        275                    280                    285

Tyr Met His Gln Val Leu Ile Arg Arg Thr Gly Ile Pro Ile Ser Met
    290                295                300

Ser Leu Leu Tyr Leu Thr Ile Ala Arg Gln Leu Gly Val Pro Leu Glu
305                310                315                320

Pro Val Asn Phe Pro Ser His Phe Leu Leu Arg Trp Cys Gln Gly Ala
            325                330                335

Glu Gly Ala Thr Leu Asp Ile Phe Asp Tyr Ile Tyr Ile Asp Ala Phe
            340                345                350

Gly Lys Gly Lys Gln Leu Thr Val Lys Glu Cys Glu Tyr Leu Ile Gly
        355                360                365

Gln His Val Thr Ala Ala Leu Tyr Gly Val Val Asn Val Lys Lys Val
    370                375                380

Leu Gln Arg Met Val Gly Asn Leu Leu Ser Leu Gly Lys Arg Glu Gly
385                390                395                400

Ile Asp Gln Ser Tyr Gln Leu Leu Arg Asp Ser Leu Asp Leu Tyr Leu
            405                410                415

Ala Met Tyr Pro Asp Gln Val Gln Leu Leu Leu Leu Gln Ala Arg Leu
            420                425                430

Tyr Phe His Leu Gly Ile Trp Pro Glu Lys Val Leu Asp Ile Leu Gln
        435                440                445

His Ile Gln Thr Leu Asp Pro Gly Gln His Gly Ala Val Gly Tyr Leu
    450                455                460

Val Gln His Thr Leu Glu His Ile Glu Arg Lys Lys Glu Glu Val Gly
465                470                475                480

Val Glu Val Lys Leu Arg Ser Asp Glu Lys His Arg Asp Val Cys Tyr
```

-25-

Ser Ile Gly Leu Ile Met Lys His Lys Arg Tyr Gly Tyr Asn Cys Val
            500   505   510

Ile Tyr Gly Trp Asp Pro Thr Cys Met Met Gly His Glu Trp Ile Arg
            515   520   525

Asn Met Asn Val His Ser Leu Pro His Gly His His Gln Pro Phe Tyr
    530   535   540

Asn Val Leu Val Glu Asp Gly Ser Cys Arg Tyr Ala Ala Gln Glu Asn
545   550   555   560

Leu Glu Tyr Asn Val Glu Pro Gln Glu Ile Ser His Pro Asp Val Gly
            565   570   575

Arg Tyr Phe Ser Glu Phe Thr Gly Thr His Tyr Ile Pro Asn Ala Glu
            580   585   590

Leu Glu Ile Arg Tyr Pro Glu Asp Leu Glu Phe Val Tyr Glu Thr Val
            595   600   605

Gln Asn Ile Tyr Ser Ala Lys Lys Glu Asn Ile Asp Glu
    610   615   620

<210> 29
<211> 278
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> all n positions
<223> n=a, c, g or t

<400> 29
ccgtagtact ggnttccggc gggctggtga ggaatggagc cggtagntgc ttgcggcgag 60
tcccgggntc ctccgtagac ccgcgganac cttcgtgttg agtaacctgg cggaggtggt 120
ggagcgtgtg ctcaccttcc tgcccgccaa ggcgttgctg cgggtggcct gcgtgtgccg 180
cttatggagg gagtgtgtgc gcagagtatt gcggacccat cggagcgtaa cctggatctc 240
cgcaggcctg cggaggccg gccacctggn ggggcatt 278

<210> 30
<211> 91
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> all Xaa positions
<223> Xaa=unknown amino acid residue

<400> 30
Arg Ser Thr Gly Phe Arg Arg Ala Gly Glu Glu Trp Ser Arg Xaa Leu
  1   5   10   15

Ala Ala Ser Pro Gly Xaa Leu Arg Arg Pro Ala Xaa Thr Phe Val Leu
            20   25   30

Ser Asn Leu Ala Glu Val Val Glu Arg Val Leu Thr Phe Leu Pro Ala
        35   40   45

Lys Ala Leu Leu Arg Val Ala Cys Val Cys Arg Leu Trp Arg Glu Cys
    50   55   60

Val Arg Arg Val Leu Arg Thr His Arg Ser Val Thr Trp Ile Ser Ala
65   70   75   80

Gly Leu Ala Glu Ala Gly His Leu Xaa Gly His
                85   90

<210> 31
<211> 592
<212> DNA
<213> Homo sapiens

<400> 31
gcggccgcgc ccggtgcagc aacagcagca gcagcccccg cagcagccgc cgccgcagcc 60
gccccagcag cagccgcccc agcagcagcc tccgccgccg ccgcagcagc agcagcagca 120
gcagcctccg ccgccgccac cgccgcctcc gccgctgcct caggagcgga acaacgtcgg 180
cgagcgggat gatgatgtgc ctgcagatat ggttgcagaa gaatcaggtc ctggtgcaca 240
aaatagtcca taccaacttc gtagaaaaac tcttttgccg aaaagaacag cgtgtcccac 300
aaagaacagt atggagggcg cctcaacttc aactacagaa aactttggtc atcgtgcaaa 360
acgtgcaaga gtgtctggaa aatcacaaga tctatcagca gcacctgctg aacagtatct 420
tcaggagaaa ctgccagatg aagtggttct aaaaatcttc tcttacttgc tggaacagga 480
tctttgtaga gcagcttgtg tatgtaaacg cttcagtgaa cttgctaatg atcccaattt 540
gtggaaacga ttatatatgg aagtatttga atatactcgc cctatgatgc at   592

<210> 32
<211> 197
<212> PRT
<213> Homo sapiens

<400> 32
Arg Pro Arg Pro Val Gln Gln Gln Gln Gln Pro Pro Gln Gln Pro
1   5   10   15

Pro Pro Gln Pro Pro Gln Gln Gln Pro Pro Gln Gln Gln Pro Pro Pro
            20   25   30

Pro Pro Gln Gln Gln Gln Gln Gln Gln Pro Pro Pro Pro Pro Pro Pro
        35   40   45

Pro Pro Pro Leu Pro Gln Glu Arg Asn Asn Val Gly Glu Arg Asp Asp
    50   55   60

Asp Val Pro Ala Asp Met Val Ala Glu Glu Ser Gly Pro Gly Ala Gln
65   70   75   80

Asn Ser Pro Tyr Gln Leu Arg Arg Lys Thr Leu Leu Pro Lys Arg Thr
                85   90   95

Ala Cys Pro Thr Lys Asn Ser Met Glu Gly Ala Ser Thr Ser Thr Thr
            100   105   110

Glu Asn Phe Gly His Arg Ala Lys Arg Ala Arg Val Ser Gly Lys Ser
        115   120   125

Gln Asp Leu Ser Ala Ala Pro Ala Glu Gln Tyr Leu Gln Glu Lys Leu

-27-

```
     130                    135            140

Pro Asp Glu Val Val Leu Lys Ile Phe Ser Tyr Leu Leu Glu Gln Asp
145                 150                 155                 160

Leu Cys Arg Ala Ala Cys Val Cys Lys Arg Phe Ser Glu Leu Ala Asn
                165                 170                 175

Asp Pro Asn Leu Trp Lys Arg Leu Tyr Met Glu Val Phe Glu Tyr Thr
            180                 185                 190

Arg Pro Met Met His
        195


<210> 33
<211> 537
<212> DNA
<213> Homo sapiens

<400> 33
gcggccgcgg cccggactcc gcggtgggcg agcgccctgt gaggtgacca tggaggctgg 60
tggcctcccc ttggagctgt ggcgcatgat cttagcctac ttgcaccttc ccgacctggg 120
ccgctgcagc ctggtatgca gggcctggta tgaactgatc ctcagtctcg acagcacccg 180
ctggcggcag ctgtgtctgg gttgcaccga gtgccgccat cccaattggc ccaaccagcc 240
agatgtggag cctgagtctt ggagagaagc cttcaagcag cattaccttg catccaagac 300
atggaccaag aatgccttgg acttggagtc ttccatctgc ttttctctat ccgccggag 360
gagggaacga cgtaccctga gtgttgggcc aggccgtgag tttgacagcc tgggcagtgc 420
cttggccatg gccagcctgt atgaccgaat tgtgctcttc ccaggtgtgt acgaagagca 480
aggtgaaatc atcttgaagg tgcctgtgga gattgtaggg cagggggaagt tgggtga 537


<210> 34
<211> 178
<212> PRT
<213> Homo sapiens

<400> 34
Arg Pro Arg Pro Gly Leu Arg Gly Gly Arg Ala Pro Cys Glu Val Thr
  1             5                 10                  15

Met Glu Ala Gly Gly Leu Pro Leu Glu Leu Trp Arg Met Ile Leu Ala
              20            25              30

Tyr Leu His Leu Pro Asp Leu Gly Arg Cys Ser Leu Val Cys Arg Ala
          35            40            45

Trp Tyr Glu Leu Ile Leu Ser Leu Asp Ser Thr Arg Trp Arg Gln Leu
    50            55            60

Cys Leu Gly Cys Thr Glu Cys Arg His Pro Asn Trp Pro Asn Gln Pro
65            70            75            80

Asp Val Glu Pro Glu Ser Trp Arg Glu Ala Phe Lys Gln His Tyr Leu
            85            90            95

Ala Ser Lys Thr Trp Thr Lys Asn Ala Leu Asp Leu Glu Ser Ser Ile
          100           105           110

Cys Phe Ser Leu Phe Arg Arg Arg Arg Glu Arg Arg Thr Leu Ser Val
          115           120           125
```

-28-

Gly Pro Gly Arg Glu Phe Asp Ser Leu Gly Ser Ala Leu Ala Met Ala
    130   135   140

Ser Leu Tyr Asp Arg Ile Val Leu Phe Pro Gly Val Tyr Glu Glu Gln
145   150   155   160

Gly Glu Ile Ile Leu Lys Val Pro Val Glu Ile Val Gly Gln Gly Lys
                165   170   175

Leu Gly

<210> 35
<211> 751
<212> DNA
<213> Homo sapiens

<400> 35
gagaccgaga cggcgccgct gaccctagag tcgctgccca ccgatcccct gctcctcatc 60
ttatcctttt tggactatcg ggatctaatc aactgttgtt atgtcagtcg aagattaagc 120
cagctatcaa gtcatgatcc gctgtggaga agacattgca aaaaatactg gctgatatct 180
gaggaagaga aacacagaa gaatcagtgt tggaaatctc tcttcataga tacttactct 240
gatgtaggaa gatacattga ccattatgct gctattaaaa aggcctcggg aatgatctca 300
agaaatattt ggagcccagg tgtcctcgga tgggtttat ctctgaaaga ggggtgctcg 360
agaggaagac ctcgatgctg tggaagcgca gattgggctg caagtttcct ggacgattat 420
cgatgttcat accgaattca caatggacag aagttagttg gttcctgggg ttattgggaa 480
gcatggcact gtctaatcac tatcgttctg aagatttgtt agacgtcgat acagctgccg 540
gagattccag cagagacagg gactgaaata ctgtctccct ttaacttttg catacatact 600
ggtttgagtc agtacatagc agtggaagct gcagagggtt gaaacaaaaa tgaagttttc 660
taccaatgtc agacagtaga acgtgtgttt aaatatggca ttaagatgtg ttctgatggt 720
tgtataaatg gcatgcatta ggtattttca g   751

<210> 36
<211> 247
<212> PRT
<213> Homo sapiens

<400> 36
Glu Thr Glu Thr Ala Pro Leu Thr Leu Glu Ser Leu Pro Thr Asp Pro
  1   5   10   15

Leu Leu Leu Ile Leu Ser Phe Leu Asp Tyr Arg Asp Leu Ile Asn Cys
                20   25   30

Cys Tyr Val Ser Arg Arg Leu Ser Gln Leu Ser Ser His Asp Pro Leu
            35   40   45

Trp Arg Arg His Cys Lys Lys Tyr Trp Leu Ile Ser Glu Glu Glu Lys
    50   55   60

Thr Gln Lys Asn Gln Cys Trp Lys Ser Leu Phe Ile Asp Thr Tyr Ser
 65   70   75   80

Asp Val Gly Arg Tyr Ile Asp His Tyr Ala Ala Ile Lys Lys Ala Ser
                85   90   95

Gly Met Ile Ser Arg Asn Ile Trp Ser Pro Gly Val Leu Gly Trp Val
                100   105   110

Leu Ser Leu Lys Glu Gly Cys Ser Arg Gly Arg Pro Arg Cys Cys Gly

-29-

```
                115                     120                     125

Ser Ala Asp Trp Ala Ala Ser Phe Leu Asp Asp Tyr Arg Cys Ser Tyr
    130                 135                 140

Arg Ile His Asn Gly Gln Lys Leu Val Gly Ser Trp Gly Tyr Trp Glu
145                 150                 155                 160

Ala Trp His Cys Leu Ile Thr Ile Val Leu Lys Ile Cys Thr Ser Ile
                165                 170                 175

Gln Leu Pro Glu Ile Pro Ala Glu Thr Gly Thr Glu Ile Leu Ser Pro
            180                 185                 190

Phe Asn Phe Cys Ile His Thr Gly Leu Ser Gln Tyr Ile Ala Val Glu
            195                 200                 205

Ala Ala Glu Gly Asn Lys Asn Glu Val Phe Tyr Gln Cys Gln Thr Val
    210                 215                 220

Glu Arg Val Phe Lys Tyr Gly Ile Lys Met Cys Ser Asp Gly Cys Ile
225                 230                 235                 240

Asn Gly Met His Val Phe Ser
                245


<210> 37
<211> 368
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> all n positions
<223> n=a, c, g or t

<400> 37
ggctccggtt tccgggccgg cgggtggccg ctcaccatgc ccggnaagca ccagcatttc 60
caggaacctg aggtcggctg ctgcgggaaa tacttcctgt ttggcttcaa cattgtcttc 120
tgggtgctgg gagccctgtt cctggctatc ggcctctggg cctggggtga gaagggcgtt 180
ctctcgaaca tctcagcgct gacagatctg ggaggccttg accccgtgtg gcttgtttgt 240
ggtagttgga ggcgtcatgt cggtgctggg ctttgctggg ctgcaattgg ggccctccgg 300
gagaacacct tcctgctcaa gttttttctnc gngttcctcg gtctcatctt cttcctggag 360
ctggcaac                                                          368

<210> 38
<211> 122
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> all Xaa positions
<223> Xaa=unknown amino acid residue

<400> 38
Gly Ser Gly Phe Arg Ala Gly Gly Trp Pro Leu Thr Met Pro Gly Lys
  1                 5                   10                  15

His Gln His Phe Gln Glu Pro Glu Val Gly Cys Cys Gly Lys Tyr Phe
```

```
Leu Phe Gly Phe Asn Ile Val Phe Trp Val Leu Gly Ala Leu Phe Leu
          35                  40                  45

Ala Ile Gly Leu Trp Ala Trp Gly Glu Lys Gly Val Leu Ser Asn Ile
      50                  55                  60

Ser Ala Leu Thr Asp Leu Gly Gly Leu Asp Pro Val Trp Leu Val Cys
65                  70                  75                      80

Gly Ser Trp Arg Arg His Val Gly Ala Gly Leu Cys Trp Ala Ala Ile
              85                  90                  95

Gly Ala Leu Arg Glu Asn Thr Phe Leu Leu Lys Phe Phe Xaa Xaa Phe
          100                 105                 110

Leu Gly Leu Ile Phe Phe Leu Glu Leu Ala
          115                 120
```

```
<210> 39
<211> 774
<212> DNA
<213> Homo sapiens

<400> 39
gcggcggccg ccgccgcgta cctggacgag ctgcccgagc cgctgctgct gcgcgtgctg 60
gccgcactgc cggccgccga gctggtgcag gcctgccgcc tggtgtgcct gcgctggaag 120
gagctggtgg acggcgcccc gctgtggctg ctcaagtgcc agcaggaggg gctggtgccc 180
gagggcggcg tggaggagga gcgcgaccac tggcagcagt tctacttcct gagcaagcgg 240
cgccgcaacc ttctgcgtaa cccgtgtggg gaagaggact tggaaggctg gtgtgacgtg 300
gagcatggtg gggacggctg gagggtggag gagctgcctg gagacagtgg ggtggagttc 360
acccacgatg agagcgtcaa gaagtacttc gcctcctcct ttgagtggtg tcgcaaagca 420
caggtcattg acctgcaggc tgagggctac tgggaggagc tgctggacac gactcagccg 480
gccatcgtgg tgaaggactg gtactcgggc cgcagcgacg ctggttgcct ctacgagctc 540
accgttaagc tactgtccga gcacgagaac gtgctggctg agttcagcag cgggcaggtg 600
gcagtgcccc aagacagtga cggcggggggc tggatggaga tctcccacac cttcaccgac 660
tacgggccgg gcgtccgctt cgtccgcttc gagcacgggg ggcagggctc cgtctactgg 720
aagggctggt cggggcccg ggtgaccaac agcagcgtgt gggtagaacc ctga      774

<210> 40
<211> 257
<212> PRT
<213> Homo sapiens

<400> 40
Ala Ala Ala Ala Ala Ala Tyr Leu Asp Glu Leu Pro Glu Pro Leu Leu
 1               5                  10                  15

Leu Arg Val Leu Ala Ala Leu Pro Ala Ala Glu Leu Val Gln Ala Cys
              20                  25                  30

Arg Leu Val Cys Leu Arg Trp Lys Glu Leu Val Asp Gly Ala Pro Leu
          35                  40                  45

Trp Leu Leu Lys Cys Gln Gln Glu Gly Leu Val Pro Glu Gly Gly Val
      50                  55                  60

Glu Glu Glu Arg Asp His Trp Gln Gln Phe Tyr Phe Leu Ser Lys Arg
65                  70                  75                      80
```

```
Arg Arg Asn Leu Leu Arg Asn Pro Cys Gly Glu Glu Asp Leu Glu Gly
                85                  90                  95

Trp Cys Asp Val Glu His Gly Gly Asp Gly Trp Arg Val Glu Glu Leu
            100             105             110

Pro Gly Asp Ser Gly Val Glu Phe Thr His Asp Glu Ser Val Lys Lys
            115             120             125

Tyr Phe Ala Ser Ser Phe Glu Trp Cys Arg Lys Ala Gln Val Ile Asp
    130             135             140

Leu Gln Ala Glu Gly Tyr Trp Glu Glu Leu Leu Asp Thr Thr Gln Pro
145             150             155             160

Ala Ile Val Val Lys Asp Trp Tyr Ser Gly Arg Ser Asp Ala Gly Cys
            165             170             175

Leu Tyr Glu Leu Thr Val Lys Leu Leu Ser Glu His Glu Asn Val Leu
            180             185             190

Ala Glu Phe Ser Ser Gly Gln Val Ala Val Pro Gln Asp Ser Asp Gly
            195             200             205

Gly Gly Trp Met Glu Ile Ser His Thr Phe Thr Asp Tyr Gly Pro Gly
    210             215             220

Val Arg Phe Val Arg Phe Glu His Gly Gly Gln Gly Ser Val Tyr Trp
225             230             235             240

Lys Gly Trp Phe Gly Ala Arg Val Thr Asn Ser Ser Val Trp Val Glu
            245             250             255

Pro
```

```
<210> 41
<211> 957
<212> DNA
<213> Homo sapiens


<400> 41
atgggcgaga aggcggtccc tttgctaagg aggaggcggg tgaagagaag ctgcccttct 60
tgtggctcgg agcttggggt tgaagagaag aggggggaaag gaaatccgat ttccatccag 120
ttgttccccc cagagctggt ggagcatatc atctcattcc tcccagtcag agaccttgtt 180
gccctcggcc agacctgccg ctacttccac gaagtgtgcg atggggaagg cgtgtggaga 240
cgcatctgtc gcagactcag tccgcgcctc caagatcagg acacgaaggg cctgtatttc 300
caggcatttg gaggccgccg ccgatgtctc agcaagagcg tggcccccctt gctagcccac 360
ggctaccgcc gcttcttgcc caccaaggat cacgtcttca ttcttgacta cgtggggacc 420
ctcttcttcc tcaaaaatgc cctggtctcc accctcggcc agatgcagtg gaagcgggcc 480
tgtcgctatg ttgtgttgtg tcgtggagcc aaggattttg cctcggaccc aaggtgtgac 540
acagtttacc gtaaatacct ctacgtcttg gccactcggg agccgcagga agtggtgggt 600
accaccagca gccgggcctg tgactgtgtt gaggtctatc tgcagtctag tgggcagcgg 660
gtcttcaaga tgacattcca ccactcaatg accttcaagc agatcgtgct ggttggtcag 720
gagacccagc gggctctact gctcctcaca gaggaaggaa agatctactc tttggtagtg 780
aatgagaccc agcttgacca gccacgctcc tacacggttc agctggcccт gaggaaggtg 840
tcccactacc tgcctcacct cgcgcgtggcc tgcatgactt ccaaccagag cagcaccctc 900
tacgtcacag atcctattct gtgctcttgg ctacaaccac cttggcctgg tggatga 957
```

-32-

<210> 42
<211> 318
<212> PRT
<213> Homo sapiens

<400> 42
```
Met Gly Glu Lys Ala Val Pro Leu Leu Arg Arg Arg Arg Val Lys Arg
 1               5                  10                  15

Ser Cys Pro Ser Cys Gly Ser Glu Leu Gly Val Glu Glu Lys Arg Gly
            20                  25                  30

Lys Gly Asn Pro Ile Ser Ile Gln Leu Phe Pro Pro Glu Leu Val Glu
            35                  40                  45

His Ile Ile Ser Phe Leu Pro Val Arg Asp Leu Val Ala Leu Gly Gln
        50                  55                  60

Thr Cys Arg Tyr Phe His Glu Val Cys Asp Gly Glu Gly Val Trp Arg
 65              70                  75                  80

Arg Ile Cys Arg Arg Leu Ser Pro Arg Leu Gln Asp Gln Asp Thr Lys
                85                  90                  95

Gly Leu Tyr Phe Gln Ala Phe Gly Gly Arg Arg Arg Cys Leu Ser Lys
            100                 105                 110

Ser Val Ala Pro Leu Leu Ala His Gly Tyr Arg Arg Phe Leu Pro Thr
            115                 120                 125

Lys Asp His Val Phe Ile Leu Asp Tyr Val Gly Thr Leu Phe Phe Leu
        130                 135                 140

Lys Asn Ala Leu Val Ser Thr Leu Gly Gln Met Gln Trp Lys Arg Ala
145                 150                 155                 160

Cys Arg Tyr Val Val Leu Cys Arg Gly Ala Lys Asp Phe Ala Ser Asp
                165                 170                 175

Pro Arg Cys Asp Thr Val Tyr Arg Lys Tyr Leu Tyr Val Leu Ala Thr
            180                 185                 190

Arg Glu Pro Gln Glu Val Val Gly Thr Thr Ser Ser Arg Ala Cys Asp
            195                 200                 205

Cys Val Glu Val Tyr Leu Gln Ser Ser Gly Gln Arg Val Phe Lys Met
    210                 215                 220

Thr Phe His His Ser Met Thr Phe Lys Gln Ile Val Leu Val Gly Gln
225                 230                 235                 240

Glu Thr Gln Arg Ala Leu Leu Leu Leu Thr Glu Glu Gly Lys Ile Tyr
                245                 250                 255

Ser Leu Val Val Asn Glu Thr Gln Leu Asp Gln Pro Arg Ser Tyr Thr
            260                 265                 270

Val Gln Leu Ala Leu Arg Lys Val Ser His Tyr Leu Pro His Leu Arg
            275                 280                 285
```

-33-

```
Val Ala Cys Met Thr Ser Asn Gln Ser Ser Thr Leu Tyr Val Thr Asp
    290                 295                 300

Pro Ile Leu Cys Ser Trp Leu Gln Pro Pro Trp Pro Gly Gly
305                 310                 315
```

<210> 43
<211> 1590
<212> DNA
<213> Homo sapiens

<400> 43
```
cgaggggggaa gcgaaggaag gggaagagga agggaaaagc gagcgagagg ggcaaggcgg 60
aagaggaagc agggcggaag ggaagcccgg gccgcagacg gcgaaggagg cagcgggccg 120
ggggctgagg cgggagcgag gacacgccca agagaggaag cagagggagg cggaagcgtg 180
gaggaagggg cgagaggcat catcaaagga gatgagggga gcgtagggggc cgggaaagag 240
gcacaaggaa gaaagtatgg gaaggaggaa tggagggtca gggctaggcg gcgggagggc 300
gccaggccgg gaagagtaca aggacaagga ggtcaggttt gggcctacat cccggggaca 360
ggggcggcca tggcggcggc agccagggag gaggaggagg aggcggctcg ggagtcagcc 420
gcctgcccgg ctgcggggcc agcgctctgg cgcctgccgg aagtgctgct gctgcacatg 480
tgctcctacc tcgacatgcg ggccctcggc cgcctggccc aggtgtaccg ctggctgtgg 540
cacttcacca actgcgacct gctccggcgc cagatagcct gggcctcgct caactccggc 600
ttcacgcggc tcggcaccaa cctgatgacc agtgtcccag tgaaggtgtc tcagaactgg 660
atagtggggt gctgccgaga ggggattctg ctgaagtgga gatgcagtca gatgccctgg 720
atgcagctag aggatgatgc tttgtacata tcccaggcta atttcatcct ggcctaccag 780
ttccgtccag atggtgccag cttgaaccgt cagcctctgg gagtctctgc tgggcatgat 840
gaggacgttt gccactttgt gctggccacc tcgcatattg tcagtgcagg aggagatggg 900
aagattggcc ttggtaagat tcacagcacc ttcgctgcca agtactgggc tcatgaacag 960
gaggtgaact gtgtggattg caaaggggggc atcatatcat ttggctccag ggacaggacg 1020
gccaaggtgt ggcctttggc ctcaggccag ctggggcagt gtttatacac catccagact 1080
gaagaccaaa tctggtctgt tgctatcagg ccattactca gctcttttgt gacagggacg 1140
gcttgttgtg ggcacttctc acccctgaaa atctgggacc tcaacagtgg gcagctgatg 1200
acacacttgg acagagactt ccccccaagg gctggggtgc tggatgtcat atatgagtcc 1260
cctttcgcac tgctctcctg tggctatgac acctatgttc gctactggga ctgccgcacc 1320
agtgtccgga aatgtgtcat ggagtgggag gagccccaca acagcaccct gtactgcctg 1380
cagacagatg caaccactt gcttgccaca ggttcctcct ctatagcgt tgtacggctg 1440
tgggaccggc accaaagggc ctgcccgcac accttcccgc tgacgtcgac ccgcctcggc 1500
agccctgtgt actgcctgca tctcaccacc aagcatctct atgctgcgct gtcttacaac 1560
ctccacgtcc tggatattca aaacccgtga                                 1590
```

<210> 44
<211> 529
<212> PRT
<213> Homo sapiens

<400> 44
```
Arg Gly Gly Ser Glu Gly Arg Gly Arg Gly Arg Glu Lys Arg Ala Arg
  1               5                  10                  15

Gly Ala Arg Arg Lys Arg Lys Gln Gly Gly Arg Glu Ala Arg Ala Ala
             20                  25                  30

Asp Gly Glu Gly Gly Ser Gly Pro Gly Ala Glu Ala Gly Ala Arg Thr
          35                  40                  45

Arg Pro Arg Glu Glu Ala Glu Gly Gly Gly Ser Val Glu Glu Gly Ala
    50                  55                  60

Arg Gly Ile Ile Lys Gly Asp Glu Gly Ser Val Gly Ala Gly Lys Glu
 65                  70                  75                  80
```

-34-

```
Ala Gln Gly Arg Lys Tyr Gly Lys Glu Glu Trp Arg Val Arg Ala Arg
            85                   90                      95

Arg Arg Glu Gly Ala Arg Pro Gly Arg Val Gln Gly Gln Gly Gly Gln
            100               105               110

Val Trp Ala Tyr Ile Pro Gly Thr Gly Ala Ala Met Ala Ala Ala Ala
        115               120               125

Arg Glu Glu Glu Glu Glu Ala Ala Arg Glu Ser Ala Ala Cys Pro Ala
    130               135               140

Ala Gly Pro Ala Leu Trp Arg Leu Pro Glu Val Leu Leu Leu His Met
145               150               155               160

Cys Ser Tyr Leu Asp Met Arg Ala Leu Gly Arg Leu Ala Gln Val Tyr
            165               170               175

Arg Trp Leu Trp His Phe Thr Asn Cys Asp Leu Leu Arg Arg Gln Ile
            180               185               190

Ala Trp Ala Ser Leu Asn Ser Gly Phe Thr Arg Leu Gly Thr Asn Leu
            195               200               205

Met Thr Ser Val Pro Val Lys Val Ser Gln Asn Trp Ile Val Gly Cys
    210               215               220

Cys Arg Glu Gly Ile Leu Leu Lys Trp Arg Cys Ser Gln Met Pro Trp
225               230               235               240

Met Gln Leu Glu Asp Asp Ala Leu Tyr Ile Ser Gln Ala Asn Phe Ile
            245               250               255

Leu Ala Tyr Gln Phe Arg Pro Asp Gly Ala Ser Leu Asn Arg Gln Pro
            260               265               270

Leu Gly Val Ser Ala Gly His Asp Glu Asp Val Cys His Phe Val Leu
            275               280               285

Ala Thr Ser His Ile Val Ser Ala Gly Gly Asp Gly Lys Ile Gly Leu
    290               295               300

Gly Lys Ile His Ser Thr Phe Ala Ala Lys Tyr Trp Ala His Glu Gln
305               310               315               320

Glu Val Asn Cys Val Asp Cys Lys Gly Gly Ile Ile Ser Phe Gly Ser
            325               330               335

Arg Asp Arg Thr Ala Lys Val Trp Pro Leu Ala Ser Gly Gln Leu Gly
            340               345               350

Gln Cys Leu Tyr Thr Ile Gln Thr Glu Asp Gln Ile Trp Ser Val Ala
            355               360               365

Ile Arg Pro Leu Leu Ser Ser Phe Val Thr Gly Thr Ala Cys Cys Gly
            370               375               380

His Phe Ser Pro Leu Lys Ile Trp Asp Leu Asn Ser Gly Gln Leu Met
385               390               395               400
```

Thr His Leu Asp Arg Asp Phe Pro Pro Arg Ala Gly Val Leu Asp Val
            405   410   415

Ile Tyr Glu Ser Pro Phe Ala Leu Leu Ser Cys Gly Tyr Asp Thr Tyr
            420   425   430

Val Arg Tyr Trp Asp Cys Arg Thr Ser Val Arg Lys Cys Val Met Glu
            435   440   445

Trp Glu Glu Pro His Asn Ser Thr Leu Tyr Cys Leu Gln Thr Asp Gly
    450   455   460

Asn His Leu Leu Ala Thr Gly Ser Ser Phe Tyr Ser Val Val Arg Leu
465   470   475   480

Trp Asp Arg His Gln Arg Ala Cys Pro His Thr Phe Pro Leu Thr Ser
            485   490   495

Thr Arg Leu Gly Ser Pro Val Tyr Cys Leu His Leu Thr Thr Lys His
            500   505   510

Leu Tyr Ala Ala Leu Ser Tyr Asn Leu His Val Leu Asp Ile Gln Asn
            515   520   525

Pro

<210> 45
<211> 1214
<212> DNA
<213> Homo sapiens

<400> 45
gcattgctat aattttacta tactctcatc taaatctaaa atcagtcttc aaaataaaaa 60
caaattgtcc tttgccaaaa attttttta tcgcacaatt aattgacatt aactgccaat 120
tcttttggc taattgacta attttaactt ctgtgttgct tttccagagg catggctatt 180
gcaccttggg agaagccttt aatcggttag acttctcaag tgcaattcaa gatatccgaa 240
cgttcaatta tgtggtcaaa ctgttgcagc taattgcaaa atcccagtta acttcattga 300
gtggcgtggc acagaagaat tacttcaaca ttttggataa aatcgttcaa aaggttcttg 360
atgaccacca caatcctcgc ttaatcaaag atcttctgca agacctaagc tctaccctct 420
gcattcttat tagaggagta gggaagtctg tattagtggg aaacatcaat atttggattt 480
gccgattaga aactattctc gcctggcaac aacagctaca ggatcttcag atgactaagc 540
aagtgaacaa tggcctcacc ctcagtgacc ttcctctgca catgctgaac aacatcctat 600
accggttctc agacggatgg gacatcatca ccttaggcca ggtgacccc acgttgtata 660
tgcttagtga agacagacag ctgtggaaga agctttgtca gtaccatttt gctgaaaagc 720
agttttgtag acatttgatc ctttcagaaa aaggtcatat tgaatggaag ttgatgtact 780
ttgcacttca gaaacattac ccagcgaagg agcagtacgg agacacactg catttctgtc 840
ggcactgcag cattctcttt tggaaggact caggacaccc ctgcacggcg gccgaccctg 900
acagctgctt cacgcctgtg tctccgcagc acttcatcga cctcttcaag ttttaagggc 960
tgcccctgcc atccctattg gagattgtga atcctgctgt ctgtgcaggg ctcatagtga 1020
gtgttctgtg aggtgggtgg agactcctcg gaagcccctg cttccagaaa gcctgggaag 1080
aactgccctt ctgcaaaggg gggactgcat ggttgcattt tcatcactga aagtcagagg 1140

ccaaggaaat catttctact ctttaaaaa ctccttctaa gcatattaaa atgtgaaatt 1200
ttgcgtactc tctc   1214

<210> 46
<211> 272
<212> PRT
<213> Homo sapiens

<400> 46

```
Leu Ile Leu Thr Ser Val Leu Leu Phe Gln Arg His Gly Tyr Cys Thr
 1               5                  10                  15

Leu Gly Glu Ala Phe Asn Arg Leu Asp Phe Ser Ser Ala Ile Gln Asp
             20              25                  30

Ile Arg Thr Phe Asn Tyr Val Val Lys Leu Leu Gln Leu Ile Ala Lys
         35              40                  45

Ser Gln Leu Thr Ser Leu Ser Gly Val Ala Gln Lys Asn Tyr Phe Asn
     50              55                  60

Ile Leu Asp Lys Ile Val Gln Lys Val Leu Asp Asp His His Asn Pro
 65              70                  75                      80

Arg Leu Ile Lys Asp Leu Leu Gln Asp Leu Ser Ser Thr Leu Cys Ile
             85                  90                      95

Leu Ile Arg Gly Val Gly Lys Ser Val Leu Val Gly Asn Ile Asn Ile
         100             105                 110

Trp Ile Cys Arg Leu Glu Thr Ile Leu Ala Trp Gln Gln Gln Leu Gln
         115             120                 125


Asp Leu Gln Met Thr Lys Gln Val Asn Asn Gly Leu Thr Leu Ser Asp
     130             135                 140

Leu Pro Leu His Met Leu Asn Asn Ile Leu Tyr Arg Phe Ser Asp Gly
145             150                 155                 160

Trp Asp Ile Ile Thr Leu Gly Gln Val Thr Pro Thr Leu Tyr Met Leu
             165             170                 175

Ser Glu Asp Arg Gln Leu Trp Lys Lys Leu Cys Gln Tyr His Phe Ala
             180             185                 190

Glu Lys Gln Phe Cys Arg His Leu Ile Leu Ser Glu Lys Gly His Ile
         195             200             205

Glu Trp Lys Leu Met Tyr Phe Ala Leu Gln Lys His Tyr Pro Ala Lys
     210             215             220

Glu Gln Tyr Gly Asp Thr Leu His Phe Cys Arg His Cys Ser Ile Leu
225             230             235             240

Phe Trp Lys Asp Ser Gly His Pro Cys Thr Ala Ala Asp Pro Asp Ser
             245             250             255

Cys Phe Thr Pro Val Ser Pro Gln His Phe Ile Asp Leu Phe Lys Phe
             260             265             270
```

<210> 47
<211> 4059
<212> DNA

<400> 47
```
agtacggcag tgagggcaaa ggcagctcga gcatctcatc tgacgtgagt tcaagtacag 60
atcacacgcc cactaaagcc cagaagaatg tggctaccag cgaagactcc gacctgagca 120
tgcgcacact gagcacgccc agcccagccc tgatatgtcc accgaatctc ccaggatttc 180
agaatggaag gggctcgtcc acctcctcgt cctccatcac cggggagacg gtggccatgg 240
tgcactcccc gcccccgacc cgcctcacac acccgctcat ccggctcgcc tccagacccc 300
agaaggagca ggccagcata gaccggctcc cggaccactc catggtgcag atcttctcct 360
tcctgcccac caaccagctg tgccgctgcg cgcgagtgtg ccgccgctgg tacaacctgg 420
cctgggaccc gcggctctgg aggactatcc gcctgacggg cgagaccatc aacgtggacc 480
gcgccctcaa ggtgctgacc cgcagactct gccaggacac ccccaacgtg tgtctcatgc 540
tggaaaccgt aactgtcagt ggctgcaggc ggctcacaga ccgagggctg tacaccatcg 600
cccagtgctg ccccgaactg aggcgactgg aagtctcagg ctgttacaat atctccaacg 660
aggccgtctt tgatgtggtg tccctctgcc ctaatctgga gcacctggat gtgtcaggat 720
gctccaaagt gacctgcatc agcttgaccc gggaggcctc cattaaactg tcacccttgc 780
atggcaaaca gatttccatc cgctacctgg acatgacgga ctgcttcgtg ctggaggacg 840
aaggcctgca caccatcgcg gcgcactgca cgcagctcac ccacctctac ctgcgccgct 900
gcgtccgcct gaccgacgaa ggcctgcgct acctggtgat ctactgcgcc tccatcaagg 960
agctgagcgt cagcgactgc cgcttcgtca gcgacttcgg cctgcgggag atcgccaagc 1020
tggagtcccg cctgcggtac ctgagcatcg cgcactgcgg ccgggtcacc gacgtgggca 1080
tccgctacgt ggccaagtac tgcagcaagc tgcgctacct caacgcgagg ggctgcgagg 1140
gcatcacgga ccacggtgtg gagtacctcg ccaagaactg caccaaactc aaatccctgg 1200
atatcggcaa atgccctttg gtatccgaca cgggcctgga gtgcctggcc ctgaactgct 1260
tcaacctcaa gcggctcagc ctcaagtcct gcgagagcat caccggccag ggcttgcaga 1320
tcgtggccgc caactgcttt gacctccaga cgctgaatgt ccaggactgc gaggtctccg 1380
tggaggccct gcgctttgtc aaacgccact gcaagcgctg cgtcatcgag cacaccaacc 1440
cggctttctt ctgaagggac agagttcatc cggcgttgta ttcacacaaa cctgaacaaa 1500
gcaaattttt ttaaaagcag cgtatgtaag caccgacacc cactcaaaac agctctttct 1560
tccgggaagg ttattaggaa tctggccttt attttttcctc atttctcatg ggcaacagag 1620
gccaaagaaa cgaagcaaga caaacagcaa acaggcattt tggtcaggtc atttgtaggc 1680
agtttctctt ctcacaaaag atgtacttaa gcaggctgat cgctgttcct tgagcaaggc 1740
gcttactctc ctccgctcag gcccccaagg ccgccctttc cctcgcacac aggccccacc 1800
cccacagttc cacgcccccc ccccaaggcc acaccctccc tccctagagc agcagcgagg 1860
atccatcatc agaatcacag tgctctccag acctcctctc taaactgctt cattgaccta 1920
agtcactctc ttcaatccca cacccatgga cattcttgtc aactcaatac catagcactt 1980
tgcataggca aaatactttt caggcctttt taaaaaattc attacagcaa acagctgggg 2040
aaggacatgc agtcctcccc cagctctgtc aatgactatg accttggcca aagcacttca 2100
ctgctctggg ctgcagcttc cagcactgaa tcagaggcca cacagcccaa agattagctt 2160
catgtccatt atagcattga gggagcagag atacccatac acagaagcac cttggcatag 2220
agcacccagg catcgacctc ttccaggaga actgattctg tggatggatg tgatttcagg 2280
agattgtgca gtgccagcat cagtgcataa agggtcctgt atgtcctttg gctgcaaatc 2340
acccacttcc ctgtgtttca gtgggagaat ttcctctccc acctcctcac atcctctttt 2400
gccaggctgg atgctgtcgt ctctgtacac aaatactttc tgcattcccc cctccacacc 2460
atcctagcga ggcaccagca cacctaatca cagcaaagcc cagatccccc catcagttgc 2520
ttttactcag tgttttcaaa taggagtaaa ggcccttgca atttttaatt aacaagcaag 2580
gcccaaggga acacatgtcc tcaaaagttt ttctgatccc tcgccttgca cacctggcat 2640

gcatcaggca catctgtcct acagctggca gagacagatg cctcggttct ttgtcattca 2700
gattgcattt gacctcttct catctatttta tttctttata catccagact tcatcacatg 2760
aagcctattg gggttaagtt tgtaagtgtt taattgtgca aattgccacc ctgtgtacct 2820
cctccatgtc tgtctgcgtg ttttccacca aagaatgcaa agcagacttc caggtgttta 2880
aattctgttc actcaacaat gccagatgaa tggaagaggg aacacactga gatgacttag 2940
actctggtcc accaaccaga cccttggaaa ggaatactaa aatcattaca aggtatggat 3000
tttaaatgga tgaaacttca aattatctta tttggataga agtctatatt ctagcctcat 3060
ttgcatgaag tcagatagcc agaagaaatt ccattgctgg ttttcacgaa attcacttgt 3120
cttttgctaa taaacacatg gcccttttcc agattattct ctagccaagc cccacctttg 3180
ttacgttgaa atccctcatt tattttcttc tcaaaatgcc cattatccaa atgcagaacc 3240
tctgcatctc caagccagtt atgctgaatt tgtcaaactt agacaccctt gacaactgca 3300
ctcctactgt aggtcctgt gcatactgtc gtcttctgtg ggggatggag aggttagtgt 3360
gatgaggtgg tgtctgccca ggaggtttct ttcaaacatc atggcctccc atccaatcaa 3420
```

```
catcatcaaa ttacatgtgt aatcaaggct ctgtgccatg ggggaaatga atcatttagc 3480
taggccagga tctagtgaaa gccacagagt ttaaaaccat gaaagaagtt gaaggcagca 3540
ttcctcagct ctgtgacttg tgaccctatt tgaagtttca ggatttgggt gtcacaaagg 3600
attgtcccta atccttggcc ctggggtctt ccgagtgagc tggtttaata ctctgagaat 3660
gagcagggag atccagagaa tgaatccctg accgcatcac ctaaactgtc ttccaaacat 3720
gagacaaagc tgactgttca cactgattgc ccagcacata ccgtcttgcc agtttcttct 3780
tttctcccag tctcctgttc atccattctg ttctcccttg gggtgggaat ctatgatgga 3840
ggttactggg gaaacagctc agcagatttt tggagaccaa accaaaggtc tcactaggaa 3900
atttatctgt tttaaacat tgcttccttc ctggctctgc taaattgaat gctcattgtt 3960
tgttgttgtt gttttttaat tctaatgttc aaatcactgc gtgctgtatg aatctagaaa 4020
gccttaattt actaccaaga aataaagcaa tatgttcgt              4059
```

```
<210> 48
<211> 483
<212> PRT
<213> Homo sapiens

<400> 48
Tyr Gly Ser Glu Gly Lys Gly Ser Ser Ser Ile Ser Ser Asp Val Ser
 1               5                  10                  15

Ser Ser Thr Asp His Thr Pro Thr Lys Ala Gln Lys Asn Val Ala Thr
                20                  25                  30

Ser Glu Asp Ser Asp Leu Ser Met Arg Thr Leu Ser Thr Pro Ser Pro
            35                  40                  45

Ala Leu Ile Cys Pro Pro Asn Leu Pro Gly Phe Gln Asn Gly Arg Gly
        50                  55                  60

Ser Ser Thr Ser Ser Ser Ser Ile Thr Gly Glu Thr Val Ala Met Val
65                  70                  75                  80

His Ser Pro Pro Pro Thr Arg Leu Thr His Pro Leu Ile Arg Leu Ala
                85                  90                  95

Ser Arg Pro Gln Lys Glu Gln Ala Ser Ile Asp Arg Leu Pro Asp His
            100                 105                 110

Ser Met Val Gln Ile Phe Ser Phe Leu Pro Thr Asn Gln Leu Cys Arg
        115                 120                 125

Cys Ala Arg Val Cys Arg Arg Trp Tyr Asn Leu Ala Trp Asp Pro Arg
    130                 135                 140

Leu Trp Arg Thr Ile Arg Leu Thr Gly Glu Thr Ile Asn Val Asp Arg
145                 150                 155                 160

Ala Leu Lys Val Leu Thr Arg Arg Leu Cys Gln Asp Thr Pro Asn Val
                165                 170                 175

Cys Leu Met Leu Glu Thr Val Thr Val Ser Gly Cys Arg Arg Leu Thr
        180                 185                 190

Asp Arg Gly Leu Tyr Thr Ile Ala Gln Cys Cys Pro Glu Leu Arg Arg
        195                 200                 205

Leu Glu Val Ser Gly Cys Tyr Asn Ile Ser Asn Glu Ala Val Phe Asp
    210                 215                 220
```

-39-

```
Val Val Ser Leu Cys Pro Asn Leu Glu His Leu Asp Val Ser Gly Cys
225             230             235             240

Ser Lys Val Thr Cys Ile Ser Leu Thr Arg Glu Ala Ser Ile Lys Leu
                245             250             255

Ser Pro Leu His Gly Lys Gln Ile Ser Ile Arg Tyr Leu Asp Met Thr
            260             265             270

Asp Cys Phe Val Leu Glu Asp Glu Gly Leu His Thr Ile Ala Ala His
        275             280             285

Cys Thr Gln Leu Thr His Leu Tyr Leu Arg Arg Cys Val Arg Leu Thr
    290             295             300

Asp Glu Gly Leu Arg Tyr Leu Val Ile Tyr Cys Ala Ser Ile Lys Glu
305             310             315             320

Leu Ser Val Ser Asp Cys Arg Phe Val Ser Asp Phe Gly Leu Arg Glu
            325             330             335

Ile Ala Lys Leu Glu Ser Arg Leu Arg Tyr Leu Ser Ile Ala His Cys
        340             345             350

Gly Arg Val Thr Asp Val Gly Ile Arg Tyr Val Ala Lys Tyr Cys Ser
        355             360             365

Lys Leu Arg Tyr Leu Asn Ala Arg Gly Cys Glu Gly Ile Thr Asp His
    370             375             380

Gly Val Glu Tyr Leu Ala Lys Asn Cys Thr Lys Leu Lys Ser Leu Asp
385             390             395             400

Ile Gly Lys Cys Pro Leu Val Ser Asp Thr Gly Leu Glu Cys Leu Ala
            405             410             415

Leu Asn Cys Phe Asn Leu Lys Arg Leu Ser Leu Lys Ser Cys Glu Ser
        420             425             430

Ile Thr Gly Gln Gly Leu Gln Ile Val Ala Ala Asn Cys Phe Asp Leu
        435             440             445

Gln Thr Leu Asn Val Gln Asp Cys Glu Val Ser Val Glu Ala Leu Arg
    450             455             460

Phe Val Lys Arg His Cys Lys Arg Cys Val Ile Glu His Thr Asn Pro
465             470             475             480

Ala Phe Phe
```

<210> 49
<211> 850
<212> DNA
<213> Homo sapiens

<400> 49
```
tgcggccgcg cccgcacccg caccggcacc cacgcccacg cccgaggaag ggcccgacgc 60
gggctgggga gaccgcattc ccttggaaat cctggtgcag attttcgggt tgttggtggc 120
ggcggacggc cccatgccct tcctgggcag ggctgcgcgc gtgtgccgcc gctggcagga 180
```

-40-

```
ggccgcttcc caacccgcgc tctggcacac cgtgaccctg tcgtccccgc tggtcggccg 240
gcctgccaag ggcggggtca aggcggagaa gaagctcctt gcttccctgg agtggcttat 300
gcccaatcgg ttttcacagc tccagaggct gaccctcatc cactggaagt ctcaggtaca 360
cccccgtgttg aagctggtag gtgagtgctg tcctcggctc acttttcctca agctctccgg 420
ctgccacggt gtgactgctg acgctctggt catgctagcc aaagcctgct gccagctcca 480
tagcctggac ctacagcact ccatggtgga gtccacagct gtggtgagct tcttggagga 540
ggcagggtcc cgaatgcgca agttgtggct gacctacagc tcccagacga cagccatcct 600
gggcgcattg ctgggcagct gctgcccccca gctccaggtc ctggaggtga gcaccggcat 660
caaccgtaat agcattcccc ttcagctgcc tgtcgaggct ctgcagaaag ctgccctca 720
gctccaggtg ctgcggctgt tgaacctgat gtggctgccc aagcctccgg gacgaggggt 780
ggctcccgga ccaggcttcc ctagcctaga ggagctctgc ctggcgagct caacctgcaa 840
ctttgtgagc                                                          850
```

<210> 50
<211> 283
<212> PRT
<213> Homo sapiens

<400> 50
```
Ala Ala Ala Pro Ala Pro Ala Pro Ala Pro Thr Pro Thr Pro Glu Glu
 1               5              10              15

Gly Pro Asp Ala Gly Trp Gly Asp Arg Ile Pro Leu Glu Ile Leu Val
            20              25              30

Gln Ile Phe Gly Leu Leu Val Ala Ala Asp Gly Pro Met Pro Phe Leu
        35              40              45

Gly Arg Ala Ala Arg Val Cys Arg Arg Trp Gln Glu Ala Ala Ser Gln
    50              55              60

Pro Ala Leu Trp His Thr Val Thr Leu Ser Ser Pro Leu Val Gly Arg
65              70              75              80

Pro Ala Lys Gly Gly Val Lys Ala Glu Lys Lys Leu Leu Ala Ser Leu
            85              90              95

Glu Trp Leu Met Pro Asn Arg Phe Ser Gln Leu Gln Arg Leu Thr Leu
            100             105             110

Ile His Trp Lys Ser Gln Val His Pro Val Leu Lys Leu Val Gly Glu
        115             120             125

Cys Cys Pro Arg Leu Thr Phe Leu Lys Leu Ser Gly Cys His Gly Val
    130             135             140

Thr Ala Asp Ala Leu Val Met Leu Ala Lys Ala Cys Cys Gln Leu His
145             150             155             160

Ser Leu Asp Leu Gln His Ser Met Val Glu Ser Thr Ala Val Val Ser
            165             170             175

Phe Leu Glu Glu Ala Gly Ser Arg Met Arg Lys Leu Trp Leu Thr Tyr
            180             185             190

Ser Ser Gln Thr Thr Ala Ile Leu Gly Ala Leu Leu Gly Ser Cys Cys
        195             200             205

Pro Gln Leu Gln Val Leu Glu Val Ser Thr Gly Ile Asn Arg Asn Ser
    210             215             220
```

-41-

```
Ile Pro Leu Gln Leu Pro Val Glu Ala Leu Gln Lys Gly Cys Pro Gln
225             230             235             240

Leu Gln Val Leu Arg Leu Leu Asn Leu Met Trp Leu Pro Lys Pro Pro
                245             250             255

Gly Arg Gly Val Ala Pro Gly Pro Gly Phe Pro Ser Leu Glu Glu Leu
            260             265             270

Cys Leu Ala Ser Ser Thr Cys Asn Phe Val Ser
        275             280
```

```
<210> 51
<211> 1777
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> all n positions
<223> n=a, c, g or t

<400> 51
acaacactgc tctcagaagg atactgcaga actccttaga ggtcttagcc tatggaatca 60
tgctgaagag cgacagaart tttttaaata ttccgtggat gaaaagtcag ataaagaagc 120
agaagtgtca gaacactcca caggtataac ccatcttcct cctgaggtaa tgctgtcaat 180
tttcagctat cttaatcctc aagagttatg tcgatgcagt caagtaagca tgaaatggtc 240
tcagctgaca aaaacgggat cgctttggaa acatctttac cctgttcatt gggccagagg 300
tgactggtat agtggtcccg caactgaact tgatactgaa cctgatgatg aatgggtgaa 360
aaataggaaa gatgaaagtc gtgcttttca tgagtgggat gaagatgctg acattgatga 420
atctgaagag tctgcggagg aatcaattgc tatcagcatt gcacaaatgg aaaaacgttt 480
actccatggc ttaattcata cgttctacc atatgttggt acttctgtaa aaaccttagt 540
attagcatac agctctgcag tttccagcaa aatggttagg cagattttag agctttgtcc 600
taacctggag catctggatc ttacccagac tgacatttca gattctgcat ttgacagttg 660
gtcttggctt ggttgctgcc agagtcttcg gcatcttgat ctgtctggtt gtgagaaaat 720
cacagatgtg gccctagaga agatttccag agctcttgga attctgacat ctcatcaaag 780
tggctttttg aaaacatcta caagcaaaat tacttcaact gcgtggaaaa ataaagacat 840
taccatgcag tccaccaagc agtatgcctg tttgcacgat ttaactaaca agggcattgg 900
agaagaaata gataatgaac acccctggac taagcctgtt tcttctgaga atttcacttc 960
tccttatgtg tggatgttag atgctgaaga tttggctgat attgaagata ctgtggaatg 1020
gagacataga aatgttgaaa gtctttgtgt aatggaaaca gcatccaact ttagttgttc 1080
cacctctggt tgttttagta aggacattgt tggactaagg actagtgtct gttggcagca 1140
gcattgtgct tctccagcct ttgcgtattg tggtcactca ttttgttgta caggaacagc 1200
tttaagaact atgtcatcac tcccagaatc ttctgcaatg tgtagaaaag cagcaaggac 1260
tagattgcct aggggaaaag acttaattta ctttgggagt gaaaaatctg atcaagagac 1320
tggacgtgta cttctgtttc tcagtttatc tggatgttat cagatcacag accatggtct 1380
cagggttttg actctgggag gagggctgcc ttatttggag caccttaatc tctctggttg 1440
tcttactata actggtgcag gcctgcagga tttggtttca gcatgtcctt ctctgaatga 1500
tgaatacttt tactactgtg acaacattaa cggtcctcat gctgataccg ccagtggatg 1560
ccagaatttg cagtgtggtt ttcgagcctg ctgccgctct ggcgaatgac ccttgacttc 1620
tgatctttgt ctacttcatt tagctgagca ggctttcttt catgcacttt actcatagca 1680
catttcttgt gttaaccatc cctttttgag cgtgacttgt tttgggccca ttnyttacaa 1740
cttcagaaat cttaattacc agtgrattgt aatgttg 1777
```

```
<210> 52
<211> 590
<212> PRT
<213> Homo sapiens
```

<220>
<221> SITE
<222> all Xaa positions
<223> Xaa=unknown amino acid residue

<400> 52
Gln His Cys Ser Gln Lys Asp Thr Ala Glu Leu Leu Arg Gly Leu Ser
 1   5   10   15

Leu Trp Asn His Ala Glu Glu Arg Gln Lys Phe Phe Lys Tyr Ser Val
             20   25   30

Asp Glu Lys Ser Asp Lys Glu Ala Glu Val Ser Glu His Ser Thr Gly
         35   40   45

Ile Thr His Leu Pro Pro Glu Val Met Leu Ser Ile Phe Ser Tyr Leu
     50   55   60

Asn Pro Gln Glu Leu Cys Arg Cys Ser Gln Val Ser Met Lys Trp Ser
 65   70   75   80

Gln Leu Thr Lys Thr Gly Ser Leu Trp Lys His Leu Tyr Pro Val His
             85   90   95

Trp Ala Arg Gly Asp Trp Tyr Ser Gly Pro Ala Thr Glu Leu Asp Thr
             100   105   110

Glu Pro Asp Asp Glu Trp Val Lys Asn Arg Lys Asp Glu Ser Arg Ala
         115   120   125

Phe His Glu Trp Asp Glu Asp Ala Asp Ile Asp Glu Ser Glu Glu Ser
     130   135   140

Ala Glu Glu Ser Ile Ala Ile Ser Ile Ala Gln Met Glu Lys Arg Leu
145   150   155   160

Leu His Gly Leu Ile His Asn Val Leu Pro Tyr Val Gly Thr Ser Val
             165   170   175

Lys Thr Leu Val Leu Ala Tyr Ser Ser Ala Val Ser Ser Lys Met Val
         180   185   190

Arg Gln Ile Leu Glu Leu Cys Pro Asn Leu Glu His Leu Asp Leu Thr
         195   200   205

Gln Thr Asp Ile Ser Asp Ser Ala Phe Asp Ser Trp Ser Trp Leu Gly
     210   215   220

Cys Cys Gln Ser Leu Arg His Leu Asp Leu Ser Gly Cys Glu Lys Ile
225   230   235   240

Thr Asp Val Ala Leu Glu Lys Ile Ser Arg Ala Leu Gly Ile Leu Thr
             245   250   255

Ser His Gln Ser Gly Phe Leu Lys Thr Ser Thr Ser Lys Ile Thr Ser
             260   265   270

Thr Ala Trp Lys Asn Lys Asp Ile Thr Met Gln Ser Thr Lys Gln Tyr
             275   280   285

-43-

```
Ala Cys Leu His Asp Leu Thr Asn Lys Gly Ile Gly Glu Glu Ile Asp
    290                 295             300

Asn Glu His Pro Trp Thr Lys Pro Val Ser Ser Glu Asn Phe Thr Ser
305                 310             315                 320

Pro Tyr Val Trp Met Leu Asp Ala Glu Asp Leu Ala Asp Ile Glu Asp
            325             330             335

Thr Val Glu Trp Arg His Arg Asn Val Glu Ser Leu Cys Val Met Glu
            340             345             350

Thr Ala Ser Asn Phe Ser Cys Ser Thr Ser Gly Cys Phe Ser Lys Asp
    355             360             365

Ile Val Gly Leu Arg Thr Ser Val Cys Trp Gln Gln His Cys Ala Ser
    370             375             380

Pro Ala Phe Ala Tyr Cys Gly His Ser Phe Cys Cys Thr Gly Thr Ala
385             390             395                 400

Leu Arg Thr Met Ser Ser Leu Pro Glu Ser Ser Ala Met Cys Arg Lys
            405             410             415

Ala Ala Arg Thr Arg Leu Pro Arg Gly Lys Asp Leu Ile Tyr Phe Gly
            420             425             430

Ser Glu Lys Ser Asp Gln Glu Thr Gly Arg Val Leu Leu Phe Leu Ser
        435             440             445

Leu Ser Gly Cys Tyr Gln Ile Thr Asp His Gly Leu Arg Val Leu Thr
    450             455             460

Leu Gly Gly Gly Leu Pro Tyr Leu Glu His Leu Asn Leu Ser Gly Cys
465             470             475                 480

Leu Thr Ile Thr Gly Ala Gly Leu Gln Asp Leu Val Ser Ala Cys Pro
            485             490             495

Ser Leu Asn Asp Glu Tyr Phe Tyr Tyr Cys Asp Asn Ile Asn Gly Pro
            500             505             510

His Ala Asp Thr Ala Ser Gly Cys Gln Asn Leu Gln Cys Gly Phe Arg
        515             520             525

Ala Cys Cys Arg Ser Gly Glu Pro Leu Thr Ser Asp Leu Cys Leu Leu
    530             535             540

His Leu Ala Glu Gln Ala Phe Phe His Ala Leu Tyr Ser His Ile Ser
545             550             555             560

Cys Val Asn His Pro Phe Leu Ser Val Thr Cys Phe Gly Pro Ile Xaa
            565             570             575

Tyr Asn Phe Arg Asn Leu Asn Tyr Gln Xaa Ile Val Met Leu
        580             585             590
```

-44-

<210> 53
<211> 1681
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> all n positions
<223> n=a, c, g or t

<400> 53
ttttactgta cacagttgat gtattttgat gctgggcctg tctggtctgt cttgaggatt 60
attaaccttt agaggtatca gagaagcaaa tgggtactgg tgaggctgct cattagggaa 120
gagggcaaaa ggagcactag ctaggtcaga gccatgtttc aggtcacaat gtgatgtcag 180
atgttgctta taaatccttt cttgtcttcg ccattcttaa atcttgatag gtgcctgttg 240
ggaaactgta aatgcctttc ccaatggaga atcaacagat tgggtgatgg tggagtcggt 300
caggaagact caggtcttct agaggaaagg atgcctcatc accccttngg cccaggcagc 360
tgctgtcaga gaatgacaca gcacctgcac agtcgctgtc cacttcctgc cactgctgtc 420
ggtggggtga cgggagcaaa gtaggcgtgg actttgacat gagggagctg agcccgcatc 480
cgcttgatgc ctgcacgggt aacctgctgg cagtcgtaca gctcgaggcg ctccaggcct 540
cggcagttct ctaggtgtyc cagggccaca tcagtgatga ggaggcagtt gtccaactcc 600
agtacccgca gcctctcatg gccacaggta ctgttgctca ggtgcaggat cccatcatct 660
gkgatgagtt cacagtggga caggctcagg gcttgcagtt taggacagtg aatggagagc 720
tggatgagtg tgctgtcggt tatcaggatg cawtcttcaa gatccatctt ctccaattcg 780
tggcaattcc gagctaaaag tgtaaaacct gcgtcagtca aatgggagca tcgggcagcc 840
tccaaaattt gcagtcgcgg acagttcaaa cccagggctg taagagaggc atctgtgagg 900
ttgctgcaac ccgaaaggca gagagcctgt agccggtgac agcccctgca tatctgcacc 960
acaccttcat ccgtgatacg tgagcaggac tgcaagttga ggctcacaag ctcatggcag 1020
taattctgaa tgtgtttcag agcttcatct tctaactgtg tgcagcccct caggagcagg 1080
gctttcaggc ctcgacaacc tcgcaccagt gcctcgatgc catccttcgt gatctgatca 1140
caccaagaga ggttcaggta ctccaggttt cggcagccct cactgatccc cttcaaggag 1200
ctgtttgtaa tagacacaca ggaggtcaga wccagatgtt tcagcttgga acagaatctg 1260
ctaaggctat aacacgtgct gtcagtgatt tttgtgcatc cattgaggtt caaatgttca 1320
atgtttcggc agttctgtgc aaaggtcttc aaggaggaat ccccaacacc aatgcagcct 1380
cgcaagctga gcttcctcag gaatccaacg catcgcttcg agatattttc caccactcga 1440
ccctctacat ctatttgaaa gttaaaaaga tctattcttt gccagttgct tccatccagg 1500
gctaagatgt tccaagcctt ggaaatctgt gcacatcggc acaaagttac tatatccaag 1560
aaggaaaata ttcttaacag aagttctttg ggtaactttt tgttaataag gccttcatca 1620
ttgtttgaga aaaccatggc cgaagagccg cgagcgagcc cacagcccga agtcacacgg 1680
c 1681

<210> 54
<211> 437
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> all Xaa positions
<223> Xaa=unknown amino acid residue

<400> 54
Arg Val Thr Ser Gly Cys Gly Leu Ala Arg Gly Ser Ser Ala Met Val
1   5   10   15

Phe Ser Asn Asn Asp Glu Gly Leu Ile Asn Lys Lys Leu Pro Lys Glu
            20   25   30

Leu Leu Leu Arg Ile Phe Ser Phe Leu Asp Ile Val Thr Leu Cys Arg
        35   40   45

```
Cys Ala Gln Ile Ser Lys Ala Trp Asn Ile Leu Ala Leu Asp Gly Ser
    50              55                  60

Asn Trp Gln Arg Ile Asp Leu Phe Asn Phe Gln Ile Asp Val Glu Gly
65              70                  75                      80

Arg Val Val Glu Asn Ile Ser Lys Arg Cys Val Gly Phe Leu Arg Lys
                85                  90                      95

Leu Ser Leu Arg Gly Cys Ile Gly Val Gly Asp Ser Ser Leu Lys Thr
            100             105                 110

Phe Ala Gln Asn Cys Arg Asn Ile Glu His Leu Asn Leu Asn Gly Cys
        115             120                 125

Thr Lys Ile Thr Asp Ser Thr Cys Tyr Ser Leu Ser Arg Phe Cys Ser
    130             135                 140

Lys Leu Lys His Leu Xaa Leu Thr Ser Cys Val Ser Ile Thr Asn Ser
145             150                 155                     160

Ser Leu Lys Gly Ile Ser Glu Gly Cys Arg Asn Leu Glu Tyr Leu Asn
            165             170                 175

Leu Ser Trp Cys Asp Gln Ile Thr Lys Asp Gly Ile Glu Ala Leu Val
        180             185                 190

Arg Gly Cys Arg Gly Leu Lys Ala Leu Leu Leu Arg Gly Cys Thr Gln
        195             200                 205

Leu Glu Asp Glu Ala Leu Lys His Ile Gln Asn Tyr Cys His Glu Leu
    210             215                 220

Val Ser Leu Asn Leu Gln Ser Cys Ser Arg Ile Thr Asp Glu Gly Val
225             230                 235                     240

Val Gln Ile Cys Arg Gly Cys His Arg Leu Gln Ala Leu Cys Leu Ser
            245             250                 255

Gly Cys Ser Asn Leu Thr Asp Ala Ser Leu Thr Ala Leu Gly Leu Asn
        260             265                 270

Cys Pro Arg Leu Gln Ile Leu Glu Ala Ala Arg Cys Ser His Leu Thr
    275             280                 285

Asp Ala Gly Phe Thr Leu Leu Ala Arg Asn Cys His Glu Leu Glu Lys
    290             295                 300

Met Asp Leu Glu Xaa Cys Ile Leu Ile Thr Asp Ser Thr Leu Ile Gln
305             310                 315                     320

Leu Ser Ile His Cys Pro Lys Leu Gln Ala Leu Ser Leu Ser His Cys
            325             330                 335

Glu Leu Ile Xaa Asp Asp Gly Ile Leu His Leu Ser Asn Ser Thr Cys
        340             345                 350

Gly His Glu Arg Leu Arg Val Leu Glu Leu Asp Asn Cys Leu Leu Ile
        355             360                 365

Thr Asp Val Ala Leu Xaa His Leu Glu Asn Cys Arg Gly Leu Glu Arg
```

-46-

```
        370                375                380
Leu Glu Leu Tyr Asp Cys Gln Gln Val Thr Arg Ala Gly Ile Lys Arg
385                     390                395                400

Met Arg Ala Gln Leu Pro His Val Lys Val His Ala Tyr Phe Ala Pro
                405                410                415

Val Thr Pro Pro Thr Ala Val Ala Gly Ser Gly Gln Arg Leu Cys Arg
                420                425                430

Cys Cys Val Ile Leu
        435
```

<210> 55
<211> 1866
<212> DNA
<213> Homo sapiens

<400> 55
```
atgtcaccgg tctttcccat gttaacagtt ctgaccatgt tttattatat atgccttcgg 60
cgccgagcca ggacagctac aagaggagaa atgatgaaca cccatagagc tatagaatca 120
aacagccaga cttcccctct caatgcagag gtagtccagt atgccaaaga agtagtggat 180
ttcagttccc attatggaag tgagaatagt atgtcctata ctatgtggaa tttggctggt 240
gtaccaaatg tattcccaag ttctggtgac tttactcaga cagctgtgtt tcgaacttat 300
gggacatggt gggatcagtg tcctagtgct tccttgccat tcaagaggac gccacctaat 360
tttcagagcc aggactatgt ggaacttact tttgaacaac aggtgtatcc tacagctgta 420
catgttctag aaacctatca tcccggagca gtcattagaa ttctcgcttg ttctgcaaat 480
ccttattccc caaatccacc agctgaagta agatgggaga ttctttggtc agagagacct 540
acgaaggtga atgcttccca agctcgccag tttaaacctt gtattaagca gataaatttc 600
cccacaaatc ttatacgact ggaagtaaat agttctcttc tggaatatta cactgaatta 660
gatgcagttg tgctacatgg tgtgaaggac aagccagtgc tttctctcaa gacttcactt 720
attgacatga atgatataga agatgatgcc tatgcagaaa aggatggttg tggaatggac 780
agtcttaaca aaaagtttag cagtgctgtc ctcggggaag ggccaaataa tgggtatttt 840
gataaactac cttatgagct tattcagctg attctgaatc atcttacact accagacctg 900
tgtagattag cacagacttg caaactactg agccagcatt gctgtgatcc tctgcaatac 960
atccacctca atctgcaacc atactgggca aaactagatg acacttctct ggaatttcta 1020
cagtctcgct gcactcttgt ccagtggctt aatttatctt ggactggcaa tagaggcttc 1080
atctctgttg caggatttag caggtttctg aaggtttgtg gatccgaatt agtacgcctt 1140
gaattgtctt gcagccactt tcttaatgaa acttgcttag aagttatttc tgagatgtgt 1200
ccaaatctac aggccttaaa tctctcctcc tgtgataagc taccacctca agctttcaac 1260
cacattgcca agttatgcag ccttaaacga cttgttctct atcgaacaaa agtagagcaa 1320
acagcactgc tcagcatttt gaacttctgt tcagagcttc agcacctcag tttaggcagt 1380
tgtgtcatga ttgaagacta tgatgtgata gctagcatga taggagccaa gtgtaaaaaa 1440
ctccggaccc tggatctgtg gagatgtaag aatattactg agaatggaat agcagaactg 1500
gcttctgggt gtccactact ggaggagctt gaccttggct ggtgcccaac tctgcagagc 1560
agcaccgggt gcttcaccag actggcacac cagctcccaa acttgcaaaa actctttctt 1620
acagctaata gatctgtgtg tgacacagac attgatgaat ggcatgtaa ttgtaccagg 1680
ttacagcagc tggacatatt aggaacaaga atggtaagtc cggcatcctt aagaaaactc 1740
ctggaatctt gtaaagatct ttctttactt gatgtgtcct ctgttcgca gattgataac 1800
agagctgtgc tagaactgaa tgcaagcttt ccaaaagtgt tcataaaaaa gagctttact 1860
cagtga                                                           1866
```

<210> 56
<211> 621
<212> PRT
<213> Homo sapiens

<400> 56
```
Met Ser Pro Val Phe Pro Met Leu Thr Val Leu Thr Met Phe Tyr Tyr
```

```
        1                    5                        10                           15

    Ile Cys Leu Arg Arg Arg Ala Arg Thr Ala Thr Arg Gly Glu Met Met
                  20              25                    30

    Asn Thr His Arg Ala Ile Glu Ser Asn Ser Gln Thr Ser Pro Leu Asn
                  35              40                    45

    Ala Glu Val Val Gln Tyr Ala Lys Glu Val Val Asp Phe Ser Ser His
        50                  55                    60

    Tyr Gly Ser Glu Asn Ser Met Ser Tyr Thr Met Trp Asn Leu Ala Gly
    65                  70                    75                    80

    Val Pro Asn Val Phe Pro Ser Ser Gly Asp Phe Thr Gln Thr Ala Val
                  85                  90                    95

    Phe Arg Thr Tyr Gly Thr Trp Trp Asp Gln Cys Pro Ser Ala Ser Leu
                  100             105                   110

    Pro Phe Lys Arg Thr Pro Pro Asn Phe Gln Ser Gln Asp Tyr Val Glu
                  115             120                   125

    Leu Thr Phe Glu Gln Gln Val Tyr Pro Thr Ala Val His Val Leu Glu
        130                 135                   140

    Thr Tyr His Pro Gly Ala Val Ile Arg Ile Leu Ala Cys Ser Ala Asn
    145                 150                   155                   160

    Pro Tyr Ser Pro Asn Pro Pro Ala Glu Val Arg Trp Glu Ile Leu Trp
                  165                 170                   175

    Ser Glu Arg Pro Thr Lys Val Asn Ala Ser Gln Ala Arg Gln Phe Lys
                  180                 185                   190

    Pro Cys Ile Lys Gln Ile Asn Phe Pro Thr Asn Leu Ile Arg Leu Glu
                  195                 200                   205

    Val Asn Ser Ser Leu Leu Glu Tyr Tyr Thr Glu Leu Asp Ala Val Val
        210                 215                   220

    Leu His Gly Val Lys Asp Lys Pro Val Leu Ser Leu Lys Thr Ser Leu
    225                 230                   235                   240

    Ile Asp Met Asn Asp Ile Glu Asp Asp Ala Tyr Ala Glu Lys Asp Gly
                  245                 250                   255

    Cys Gly Met Asp Ser Leu Asn Lys Lys Phe Ser Ser Ala Val Leu Gly
                  260                 265                   270

    Glu Gly Pro Asn Asn Gly Tyr Phe Asp Lys Leu Pro Tyr Glu Leu Ile
                  275                 280                   285

    Gln Leu Ile Leu Asn His Leu Thr Leu Pro Asp Leu Cys Arg Leu Ala
        290                 295                   300

    Gln Thr Cys Lys Leu Leu Ser Gln His Cys Cys Asp Pro Leu Gln Tyr
    305                 310                   315                   320

    Ile His Leu Asn Leu Gln Pro Tyr Trp Ala Lys Leu Asp Asp Thr Ser
                  325                 330                   335
```

-48-

```
Leu Glu Phe Leu Gln Ser Arg Cys Thr Leu Val Gln Trp Leu Asn Leu
        340                 345                 350        .

Ser Trp Thr Gly Asn Arg Gly Phe Ile Ser Val Ala Gly Phe Ser Arg
        355                 360                 365

Phe Leu Lys Val Cys Gly Ser Glu Leu Val Arg Leu Glu Leu Ser Cys
        370                 375                 380

Ser His Phe Leu Asn Glu Thr Cys Leu Glu Val Ile Ser Glu Met Cys
385                 390                 395                 400

Pro Asn Leu Gln Ala Leu Asn Leu Ser Ser Cys Asp Lys Leu Pro Pro
                405     .           410                 415

Gln Ala Phe Asn His Ile Ala Lys Leu Cys Ser Leu Lys Arg Leu Val
        420                 425                 430

Leu Tyr Arg Thr Lys Val Glu Gln Thr Ala Leu Leu Ser Ile Leu Asn
        435                 440                 445

Phe Cys Ser Glu Leu Gln His Leu Ser Leu Gly Ser Cys Val Met Ile
    450                 455                 460

Glu Asp Tyr Asp Val Ile Ala Ser Met Ile Gly Ala Lys Cys Lys Lys
465                 470                 475                 480

Leu Arg Thr Leu Asp Leu Trp Arg Cys Lys Asn Ile Thr Glu Asn Gly
                485                 490                 495

Ile Ala Glu Leu Ala Ser Gly Cys Pro Leu Leu Glu Glu Leu Asp Leu
            500                 505                 510

Gly Trp Cys Pro Thr Leu Gln Ser Ser Thr Gly Cys Phe Thr Arg Leu
        515                 520                 525

Ala His Gln Leu Pro Asn Leu Gln Lys Leu Phe Leu Thr Ala Asn Arg
    530                 535                 540

Ser Val Cys Asp Thr Asp Ile Asp Glu Leu Ala Cys Asn Cys Thr Arg
545                 550                 555                 560

Leu Gln Gln Leu Asp Ile Leu Gly Thr Arg Met Val Ser Pro Ala Ser
            565                 570                 .   575

Leu Arg Lys Leu Leu Glu Ser Cys Lys Asp Leu Ser Leu Leu Asp Val
        580                 585                 590

Ser Phe Cys Ser Gln Ile Asp Asn Arg Ala Val Leu Glu Leu Asn Ala
        595                 600                 605

Ser Phe Pro Lys Val Phe Ile Lys Lys Ser Phe Thr Gln
    610                 615                 620
```

<210> 57
<211> 984
<212> DNA
<213> Homo sapiens

-49-

<400> 57
atgcaacttg tacctgatat agagttcaag attacttata cccggtctcc agatggtgat 60
ggcgttggaa acagctacat tgaagataat gatgatgaca gcaaaatggc agatctcttg 120
tcctacttcc agcagcaact cacatttcag gagtctgtgc ttaaactgtg tcagcctgag 180
cttgagagca gtcagattca catatcagtg ctgccaatgg aggtcctgat gtacatcttc 240
cgatgggtgg tgtctagtga cttggacctc agatcattgg agcagttgtc gctggtgtgc 300
agaggattct acatctgtgc cagagaccct gaaatatggc gtctggcctg cttgaaagtt 360
tggggcagaa gctgtattaa acttgttccg tacacgtcct ggagagagat gtttttagaa 420
cggcctcgtg ttcggtttga tggcgtgtat atcagtaaaa ccacatatat tcgtcaaggg 480
gaacagtctc ttgatggttt ctatagagcc tggcaccaag tggaatatta caggtacata 540
agattctttc ctgatggcca tgtgatgatg ttgacaaccc ctgaagagcc tcagtccatt 600
gttccacgtt aagaactag gaataccagg actgatgcaa ttctactggg tcactatcgc 660
ttgtcacaag acacagacaa tcagaccaaa gtatttgctg taataactaa gaaaaaagaa 720
gaaaaaccac ttgactataa atacagatat tttcgtcgtg tccctgtaca agaagcagat 780
cagagttttc atgtggggct acagctatgt tccagtggtc accagaggtt caacaaactc 840
atctggatac atcattcttg tcacattact tacaaatcaa ctggtgagac tgcagtcagt 900
gcttttgaga ttgacaagat gtacacccccc ttgttcttcg ccagagtaag gagctacaca 960
gctttctcag aaaggcctct gtag 984

<210> 58
<211> 327
<212> PRT
<213> Homo sapiens

<400> 58
Met Gln Leu Val Pro Asp Ile Glu Phe Lys Ile Thr Tyr Thr Arg Ser
 1   5   10   15

Pro Asp Gly Asp Gly Val Gly Asn Ser Tyr Ile Glu Asp Asn Asp Asp
             20   25   30

Asp Ser Lys Met Ala Asp Leu Leu Ser Tyr Phe Gln Gln Gln Leu Thr
         35   40   45

Phe Gln Glu Ser Val Leu Lys Leu Cys Gln Pro Glu Leu Glu Ser Ser
     50   55   60

Gln Ile His Ile Ser Val Leu Pro Met Glu Val Leu Met Tyr Ile Phe
 65   70   75   80

Arg Trp Val Val Ser Ser Asp Leu Asp Leu Arg Ser Leu Glu Gln Leu
                 85   90   95

Ser Leu Val Cys Arg Gly Phe Tyr Ile Cys Ala Arg Asp Pro Glu Ile
                 100   105   110

Trp Arg Leu Ala Cys Leu Lys Val Trp Gly Arg Ser Cys Ile Lys Leu
             115   120   125

Val Pro Tyr Thr Ser Trp Arg Glu Met Phe Leu Glu Arg Pro Arg Val
     130   135   140

Arg Phe Asp Gly Val Tyr Ile Ser Lys Thr Thr Tyr Ile Arg Gln Gly
145   150   155   160

Glu Gln Ser Leu Asp Gly Phe Tyr Arg Ala Trp His Gln Val Glu Tyr
                 165   170   175

Tyr Arg Tyr Ile Arg Phe Phe Pro Asp Gly His Val Met Met Leu Thr
                 180   185   190

-50-

```
Thr Pro Glu Glu Pro Gln Ser Ile Val Pro Arg Leu Arg Thr Arg Asn
        195             200             205
Thr Arg Thr Asp Ala Ile Leu Leu Gly His Tyr Arg Leu Ser Gln Asp
        210             215             220
Thr Asp Asn Gln Thr Lys Val Phe Ala Val Ile Thr Lys Lys Lys Glu
225             230             235             240
Glu Lys Pro Leu Asp Tyr Lys Tyr Arg Tyr Phe Arg Arg Val Pro Val
                245             250             255
Gln Glu Ala Asp Gln Ser Phe His Val Gly Leu Gln Leu Cys Ser Ser
            260             265             270
Gly His Gln Arg Phe Asn Lys Leu Ile Trp Ile His His Ser Cys His
        275             280             285
Ile Thr Tyr Lys Ser Thr Gly Glu Thr Ala Val Ser Ala Phe Glu Ile
    290             295             300
Asp Lys Met Tyr Thr Pro Leu Phe Phe Ala Arg Val Arg Ser Tyr Thr
305             310             315             320
Ala Phe Ser Glu Arg Pro Leu
                325
```

<210> 59
<211> 765
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> all n positions
<223> n=a, c, g or t

<400> 59
```
gcagccctgg atcctgactt agagaatgat gatttctttg tcagaaagac tggggctttc 60
catgcaaatc catatgttct ccgagctttt gaagacttta gaaagttctc tgagcaagat 120
gattctgtag agcgagatat aattttacag tgtagagaag gtgaacttgt acttccggat 180
ttggaaaaag atgatatgat tgttcgccga atcccagcac agaagaaaga agtgccgctg 240
tctggggccc cagatagata ccacccagtc cctttttccg aaccctggac tcttcctcca 300
gaaattcaag caaaatttct ctgtgtactt gaaaggacat gcccatccaa agaaaaaagt 360
aatagctgta gaatattagt tccttcatat cggcagaaga aagatgacat gctgacacgt 420
aagattcagt cctggaaact gggaactacc gtgcctccca tcagtttcac ncctggcccc 480
tgcagtgagg ctgacttgaa gagatgggag gccatccggg aggccagcag actcaggcac 540
aagaaaaggc tgatggtgga gagactcttt caaaagattt atggtgagaa tgggagtaag 600
tccatgagtg atgtcagcgc agaagatgtt caaaacttgc gtcagctgcg ttacgaggag 660
atgcagaaaa taaaatcaca attaaaagaa caagatcaga aatggcagga tgaccttgca 720
aaatggaaag atcgtcgaaa aagttacact tcagatctgc agaag 765
```

<210> 60
<211> 255
<212> PRT
<213> Homo sapiens

<400> 60
```
Ala Ala Leu Asp Pro Asp Leu Glu Asn Asp Asp Phe Phe Val Arg Lys
```

-51-

```
      1                   5                        10                        15

Thr Gly Ala Phe His Ala Asn Pro Tyr Val Leu Arg Ala Phe Glu Asp
                20                  25                  30

Phe Arg Lys Phe Ser Glu Gln Asp Asp Ser Val Glu Arg Asp Ile Ile
            35                  40                  45

Leu Gln Cys Arg Glu Gly Glu Leu Val Leu Pro Asp Leu Glu Lys Asp
        50                  55                  60

Asp Met Ile Val Arg Arg Ile Pro Ala Gln Lys Lys Glu Val Pro Leu
65                  70                  75                      80

Ser Gly Ala Pro Asp Arg Tyr His Pro Val Pro Phe Pro Glu Pro Trp
                85                  90                  95

Thr Leu Pro Pro Glu Ile Gln Ala Lys Phe Leu Cys Val Leu Glu Arg
            100                 105                 110

Thr Cys Pro Ser Lys Glu Lys Ser Asn Ser Cys Arg Ile Leu Val Pro
            115                 120                 125

Ser Tyr Arg Gln Lys Lys Asp Asp Met Leu Thr Arg Lys Ile Gln Ser
        130                 135                 140

Trp Lys Leu Gly Thr Thr Val Pro Pro Ile Ser Phe Thr Pro Gly Pro
145                 150                 155                 160

Cys Ser Glu Ala Asp Leu Lys Arg Trp Glu Ala Ile Arg Glu Ala Ser
                165                 170                 175

Arg Leu Arg His Lys Lys Arg Leu Met Val Glu Arg Leu Phe Gln Lys
            180                 185                 190

Ile Tyr Gly Glu Asn Gly Ser Lys Ser Met Ser Asp Val Ser Ala Glu
        195                 200                 205

Asp Val Gln Asn Leu Arg Gln Leu Arg Tyr Glu Glu Met Gln Lys Ile
    210                 215                 220

Lys Ser Gln Leu Lys Glu Gln Asp Gln Lys Trp Gln Asp Asp Leu Ala
225                 230                 235                 240

Lys Trp Lys Asp Arg Arg Lys Ser Tyr Thr Ser Asp Leu Gln Lys
                245                 250                 255


<210> 61
<211> 36
<212> PRT
<213> Homo sapiens

<400> 61
Leu Pro Pro Glu Leu Ser Phe Thr Ile Leu Ser Tyr Leu Asn Ala Thr
    1                   5                   10                  15

Asp Leu Cys Leu Ala Ser Cys Val Trp Gln Asp Leu Ala Asn Asp Glu
            20                  25                  30

Leu Leu Trp Gln
```

-52-

<210> 62
<211> 42
<212> PRT
<213> Homo sapiens

<400> 62
Leu Pro Gly Glu Val Leu Glu Tyr Ile Leu Cys Cys Gly Ser Leu Thr
 1   5   10   15

Ala Ala Asp Ile Gly Arg Val Ser Ser Thr Cys Arg Arg Leu Arg Glu
            20   25   30

Leu Cys Gln Ser Ser Gly Lys Val Trp Lys
        35   40

<210> 63
<211> 44
<212> PRT
<213> Homo sapiens

<400> 63
Leu Ala Glu Val Val Glu Arg Val Leu Thr Phe Leu Pro Ala Lys Ala
 1   5   10   15

Leu Leu Arg Val Ala Cys Val Cys Arg Leu Trp Arg Glu Cys Val Arg
            20   25   30

Arg Val Leu Arg Thr His Arg Ser Val Thr Trp Ile
        35   40

<210> 64
<211> 39
<212> PRT
<213> Homo sapiens

<400> 64
Leu Pro Asp Glu Val Val Leu Lys Ile Phe Ser Tyr Leu Leu Glu Gln
 1   5   10   15

Asp Leu Cys Arg Ala Ala Cys Val Cys Lys Arg Phe Ser Glu Leu Ala
            20   25   30

Asn Asp Pro Asn Leu Trp Lys
        35

<210> 65
<211> 41
<212> PRT
<213> Homo sapiens

<400> 65
Leu Pro Leu Glu Leu Trp Arg Met Ile Leu Ala Tyr Leu His Leu Pro
 1   5   10   15

Asp Leu Gly Arg Cys Ser Leu Val Cys Arg Ala Trp Tyr Glu Leu Ile

Leu Ser Leu Asp Ser Thr Arg Trp Arg
        35   40

<210> 66
<211> 39
<212> PRT
<213> Homo sapiens

<400> 66
Leu Pro Thr Asp Pro Leu Leu Leu Ile Leu Ser Phe Leu Asp Tyr Arg
 1   5   10   15

Asp Leu Ile Asn Cys Cys Tyr Val Ser Arg Arg Leu Ser Gln Leu Ser
            20   25   30

Ser His Asp Pro Leu Trp Arg
        35

<210> 67
<211> 40
<212> PRT
<213> Homo sapiens

<400> 67
Leu Pro Glu Pro Leu Leu Leu Arg Val Leu Ala Ala Leu Pro Ala Ala
 1   5   10   15

Glu Leu Val Gln Ala Cys Arg Leu Val Cys Leu Arg Trp Lys Glu Leu
            20   25   30

Val Asp Gly Ala Pro Leu Trp Leu
        35   40

<210> 68
<211> 40
<212> PRT
<213> Homo sapiens

<400> 68
Leu Phe Pro Pro Glu Leu Val Glu His Ile Ile Ser Phe Leu Pro Val
 1   5   10   15

Arg Asp Leu Val Ala Leu Gly Gln Thr Cys Arg Tyr Phe His Glu Val
            20   25   30

Cys Asp Gly Glu Gly Val Trp Arg
        35   40

<210> 69
<211> 44
<212> PRT
<213> Homo sapiens

<400> 69
Leu Pro Glu Val Leu Leu Leu His Met Cys Ser Tyr Leu Asp Met Arg

```
 1                 5                         10                        15
Ala Leu Gly Arg Leu Ala Gln Val Tyr Arg Trp Leu Trp His Phe Thr
            20                25                30

Asn Cys Asp Leu Leu Arg Arg Gln Ile Ala Trp Ala
        35                40


<210> 70
<211> 40
<212> PRT
<213> Homo sapiens

<400> 70
Leu Pro Leu His Met Leu Asn Asn Ile Leu Tyr Arg Phe Ser Asp Gly
  1               5                   10                  15

Trp Asp Ile Ile Thr Leu Gly Gln Val Thr Pro Thr Leu Tyr Met Leu
            20                25                30

Ser Glu Asp Arg Gln Leu Trp Lys
        35                40


<210> 71
<211> 39
<212> PRT
<213> Homo sapiens

<400> 71
Leu Pro Asp His Ser Met Val Gln Ile Phe Ser Phe Leu Pro Thr Asn
  1               5                   10                  15

Gln Leu Cys Arg Cys Ala Arg Val Cys Arg Arg Trp Tyr Asn Leu Ala
            20                25                30

Trp Asp Pro Arg Leu Trp Arg
        35


<210> 72
<211> 44
<212> PRT
<213> Homo sapiens

<400> 72
Ile Pro Leu Glu Ile Leu Val Gln Ile Phe Gly Leu Leu Val Ala Ala
  1               5                   10                  15

Asp Gly Pro Met Pro Phe Leu Gly Arg Ala Ala Arg Val Cys Arg Arg
            20                25                30

Trp Gln Glu Ala Ala Ser Gln Pro Ala Leu Trp His
        35                40


<210> 73
<211> 39
<212> PRT
<213> Homo sapiens
```

<400> 73
Leu Pro Pro Glu Val Met Leu Ser Ile Phe Ser Tyr Leu Asn Pro Gln
1   5   10   15

Glu Leu Cys Arg Cys Ser Gln Val Ser Met Lys Trp Ser Gln Leu Thr
            20   25   30

Lys Thr Gly Ser Leu Trp Lys
        35

<210> 74
<211> 39
<212> PRT
<213> Homo sapiens

<400> 74
Leu Pro Lys Glu Leu Leu Leu Arg Ile Phe Ser Phe Leu Asp Ile Val
1   5   10   15

Thr Leu Cys Arg Cys Ala Gln Ile Ser Lys Ala Trp Asn Ile Leu Ala
            20   25   30

Leu Asp Gly Ser Asn Trp Gln
        35

<210> 75
<211> 48
<212> PRT
<213> Homo sapiens

<400> 75
Leu Pro Tyr Glu Leu Ile Gln Leu Ile Leu Asn His Leu Thr Leu Pro
1   5   10   15

Asp Leu Cys Arg Leu Ala Gln Thr Cys Lys Leu Leu Ser Gln His Cys
            20   25   30

Cys Asp Pro Leu Gln Tyr Ile His Leu Asn Leu Gln Pro Tyr Trp Ala
        35   40   45

<210> 76
<211> 44
<212> PRT
<213> Homo sapiens

<400> 76
Leu Pro Met Glu Val Leu Met Tyr Ile Phe Arg Trp Val Val Ser Ser
1   5   10   15

Asp Leu Asp Leu Arg Ser Leu Glu Gln Leu Ser Leu Val Cys Arg Gly
            20   25   30

Phe Tyr Ile Cys Ala Arg Asp Pro Glu Ile Trp Arg

<210> 77
<211> 49
<212> PRT
<213> Homo sapiens

<400> 77
Leu Pro Pro Glu Ile Gln Ala Lys Phe Leu Cys Val Leu Glu Arg Thr
 1   5   10   15

Cys Pro Ser Lys Glu Lys Ser Asn Ser Cys Arg Ile Leu Val Pro Ser
            20   25   30

Tyr Arg Gln Lys Lys Asp Asp Met Leu Thr Arg Lys Ile Gln Ser Trp
        35   40   45

Lys

<210> 78
<211> 39
<212> PRT
<213> Homo sapiens

<400> 78
Leu Pro His His Val Val Leu Gln Ile Phe Gln Tyr Leu Pro Leu Leu
 1   5   10   15

Asp Arg Ala Cys Ala Ser Ser Val Cys Arg Arg Trp Asn Glu Val Phe
            20   25   30

His Ile Ser Asp Leu Trp Arg
        35

<210> 79
<211> 43
<212> PRT
<213> Homo sapiens

<400> 79
Leu Trp Ala Trp Gly Glu Lys Gly Val Leu Ser Asn Ile Ser Ala Leu
 1   5   10   15

Thr Asp Leu Gly Gly Leu Asp Pro Val Trp Leu Val Cys Gly Ser Trp
            20   25   30

Arg Arg His Val Gly Ala Gly Leu Cys Trp Ala
        35   40

<210> 80
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:

Oligonucleotide

<400> 80
agtagtaaca aaggtcaaag acagttgact gtatcgtcga ggatgccttc aattaagtt   59

<210> 81
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
      Oligonucleotide

<400> 81
gcggttactt acttagagct cgacgtctta cttacttagc tcacttctct tcacacca   58

<210> 82
<211> 12
<212> PRT
<213> Homo sapiens

<400> 82
Cys Asp Gly Glu Lys Asp Thr Tyr Ser Tyr Leu Ala
 1   5   10

<210> 83
<211> 25
<212> PRT
<213> Homo sapiens

<400> 83
Cys Glu Ser Ser Phe Ser Leu Asn Met Asn Phe Ser Ser Lys Arg Thr
 1   5   10   ·15

Lys Phe Lys Ile Thr Thr Ser Met Gln
            20   25

<210> 84
<211> 12
<212> PRT
<213> Homo sapiens

<400> 84
Cys Glu Glu Ala Gln Val Arg Lys Glu Asn Gln Trp
 1   5   10

<210> 85
<211> 19
<212> PRT
<213> Homo sapiens

<220>
<221> Phosphorylation
<222> 8
<223> Phosothreonine

<400> 85

Asn Ala Gly Ser Val Glu Gln Thr Pro Lys Lys Pro Gly Leu Arg Arg
 1   5   10   15

Arg Gln Thr

<210> 86
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
      Oligonucleotide

<400> 86
cctgggggat gttctca   17

<210> 87
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
      Oligonucleotide

<400> 87
ggcttccggg catttag   17

<210> 88
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
      Oligonucleotide

<400> 88
catctggcac gattcca   17

<210> 89
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
      Oligonucleotide

<400> 89
ccgctcatcg tatgaca   17

<210> 90
<211> 19
<212> PRT
<213> Homo sapiens

<220>

<221> Phosphorylation
<222> 8
<223> Phosotyrosine

<400> 90
Ala Glu Ile Gly Val Gly Ala Tyr Gly Thr Val Tyr Lys Ala Arg Asp
 1   5   10   15

Pro His Ser

<210> 91
<211> 20
<212> PRT
<213> Homo sapiens

<220>
<221> Phosphorylation
<222> 9
<223> Phosothreonine

<400> 91
Asn Asn Ala Gly Ser Val Glu Trp Thr Pro Lys Lys Pro Gly Leu Arg
 1   5   10   15
Arg Arg Gln Thr
              20

<210> 92
<211> 15
<212> PRT
<213> Homo sapiens

<400> 92
Gln Ile Tyr Tyr Ser Asp Lys Asp Asp Glu Glu Phe Glu Tyr Arg
 1   5   10   15